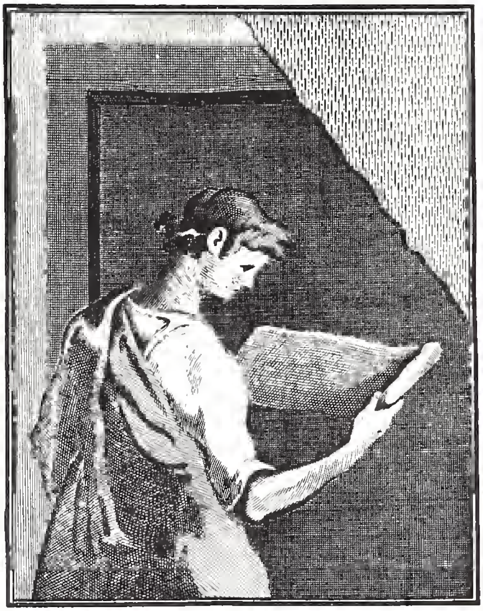

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PHOTO-ERA

The American Journal of Photography

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Volume XVI

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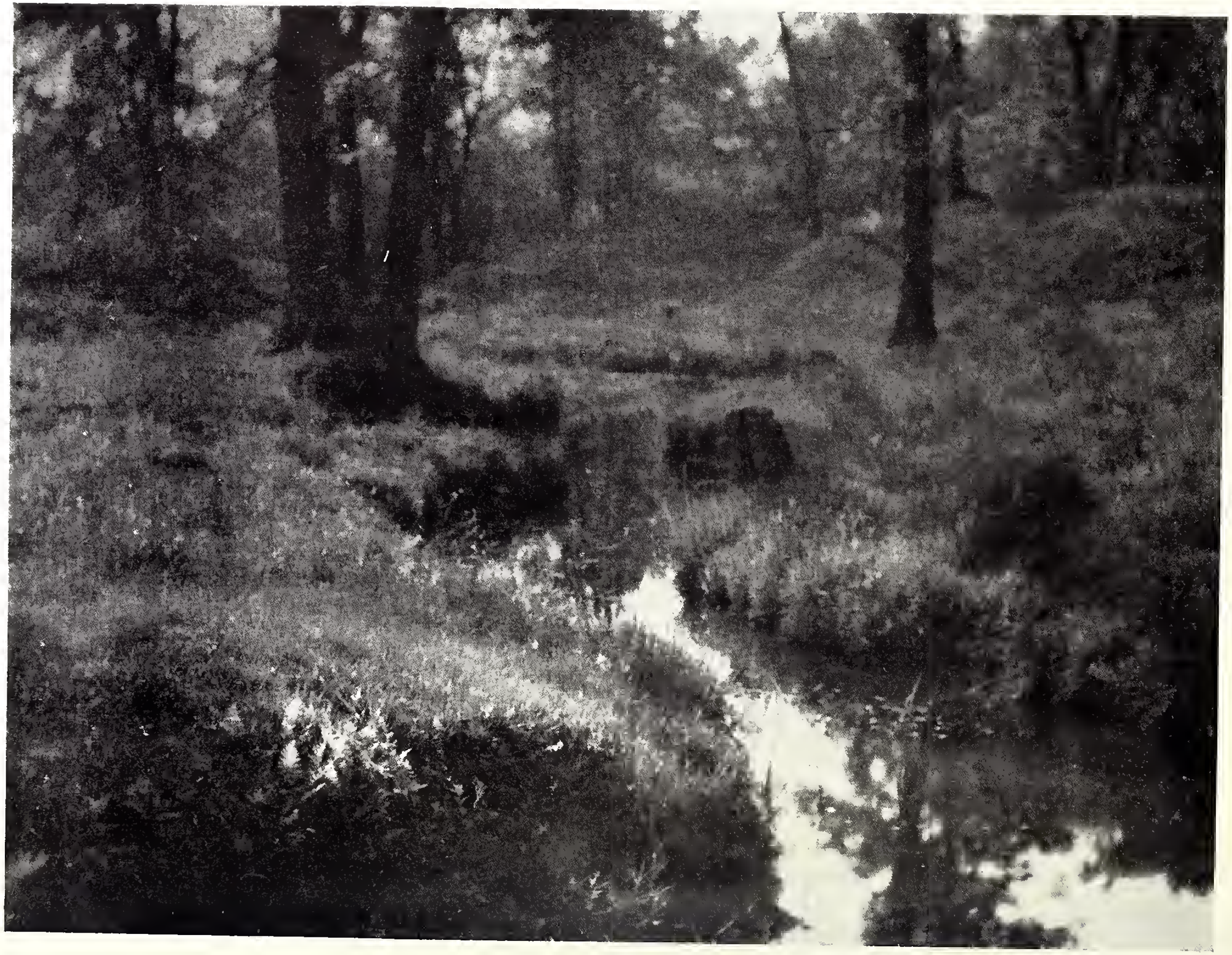


C. F. CLARK GRAND PRIZE COLLECTION WINDING BROOK

PHOTO ERA

The American Journal of Photography

VOL. XVI　　JANUARY, 1906　　No. 1

R. D. BRUCE　　SEVENTH PRIZE, CLASS A　　A WINTRY DAY

OUR FOURTH ANNUAL PHOTOGRAPHIC CONTEST

THOMAS HARRISON CUMMINGS

IN presenting the results of this, the Fourth Annual Photographic Contest, to our readers, our first word is one of congratulation and encouragement. We desire to thank the thousand and more contributors who have been interested enough to enter their pictures in this Competition. We appreciate this interest and wish that all would accept our heartiest thanks. We congratulate the winners, as success in this Annual Contest means much more than ever before. The standards in making the awards were higher and the general average of excellence better than in any previous contest. The marked advance in the quality of the pictures submitted was very encouraging and the individuality so ably expressed in them by the different artists has demanded of us greater breadth of mind and opinion in reviewing them. While nothing of a particularly striking character appears, this growth and expansion of artistic ideas among the rank and file of the exhibitors is worthy of being noted, as marking progress.

One cannot help the feeling, however, that the really advanced school of pictorial photography is not adequately represented in this collection of pictures.

And while we deplore this fact, we trust that another year will see all personal feeling and bias left aside, and all schools of photographic art properly represented. On the whole, this may fairly be considered a sincere and interesting exhibition of the tendency of modern photographic art in America, at this time.

Sir Joshua Reynolds used to say that "The great fame of great painters does not proceed from their works being more highly finished than those of other artists or from a more minute attention to details, but from that enlarged comprehension which sees the whole object at once and that energy of art which gives its characteristic effect by adequate expression. The detail of particulars which does not assist the expression of the main characteristic is worse than useless if it dissipates attention and draws it from the principal point.

"It is expressing the general effect of the whole, which alone can give objects their true and touching characters; and wherever this is observed, whatever else may be neglected, we acknowledge the hand of a Master."

What is true of paintings is equally true of photographs, and this sentiment was the dominant note in influencing the judges to make their awards in this contest. Breadth of light and shade, not the rendering of detail and sharp focus, is what enables one finally to give a poetic and artistic rendering to a given subject. Tonality and atmospheric effect are necessary to give the true pictorial values to a landscape, while form, color and detail are only different methods of handling and expression. With these facts well in mind the following awards have been made:—

AWARDS

Grand Prize: C. F. Clark..........10 pictures

HONORABLE MENTION

Louis Fleckenstein	5	pictures
W. H. Zerbe, Jr.	9	"
Theodore Eitel	21	"
Mrs. Helen P. Gatch	14	"
Edwin R. Jackson	8	"
W. H. Porterfield	7	"
Miss Reineke & Co.	9	"
Mrs. J. H. Rolfe	56	"
Chas. Vandervelde	5	"
Sarah Weaver	19	"
F. E. Bronson	12	"
W. F. Daniell, Jr.	6	"
G. H. Ewart	6	"
Mrs. Chas. S. Hayden	6	"
Ernest S. Hodges	16	"
Lawrence Macomber	6	"

CLASS A—HUMAN LIFE ABSENT

1.	Theodore Eitel	"At the Edge of the Forest"
2.	Chas. Vandervelde	"A Misty Morning"
3.	Wm. H. Zerbe	"The Path to the Woods"
4.	W. H. Phillips	"Columns under Doge's Palace"
5	W. H. Porterfield	"Aurora"
6.	W. H. Phillips	"The Boats, Venice"
7.	R. D. Bruce	"A Wintry Day"
8.	Lawrence Macomber	"Out of the Dust"
9.	Theodore Eitel	"The Brook in Winter"
10.	J. H. Field	"Return of Spring"

Honorable mention: C. H. Jongerjan, "Evening on the Marsh"; Howard C. Travis, "Presidential Range"; Ernest S. Hodges, "Faithful Workers."

Special commendation is due the following workers for excellent work submitted:—

H. W. Kimball, F. E. Bronson, W. F. Daniell, Jr., Clare J. Crary, Wm. O. Meyer, Ralph Burwells, T. Edward Schiedt, Sarah Weaver, Geo. A. Custer, G. H. Ewart, G. Wallace Williams, C. M. Whitney, K. Mac. M. Towner, G. K Muntz.

CLASS B—HUMAN LIFE PRESENT

1.	Wm. H. Zerbe	"The Potato Harvest"
2.	Louis Fleckenstein	"The Interim"
3.	Theodore Eitel	"Your Move"
4.	Chas. Vandervelde	"Study of a Workman"
5.	Mrs. Helen P. Gatch	" Gossip"
6.	F. E. Bronson	"Curiosity"
7.	Edwin R. Jackson	"Despair"
8.	Mrs. W. W. Pearce	'Interested"
9.	Miss Reineke & Co	"The Princess"
10.	G. H. Ewart	"Child Study"

Honorable mention: Adaline E. B. Campbell, "Brought to the Net"; Jessie Tarbox Beals, "In Japan"; Wm. O. Meyer, "The Gardener's Boy"; Ernest S. Hodges, "July"; Mrs. Chas. S. Hayden, "Sermon Time"; Ralph Lane, Portrait; A. W. Engel, "Story Reading"; Anna C. Ray, Portrait; W. F. Daniell, Jr., "Beg."

Special commendation is due the following workers for excellent work submitted:—

Mrs. Joseph Henry Rolfe, Lawrence Macomber, E. E. Godfrey, W. D. Hiester, Rebecca E. Jackson, F. S. Andrus, Geo. Hopkins, Lewis J. Fitler, C. M. Whitney, C. S. Brooks, C. L. Bauer, Geo. A. Custer, L. T. Powell, A. H. Moberg, W. S. McCleary, George W. Kellogg, C. R. Tucker.

The winning of the Grand Prize by Mr. C. F. Clarke of Springfield, Mass., two years in succession, gives him the silver prize cup, and again calls attention to a faithful, deserving, and highly creditable worker in the field of picture-making. His subjects are such as the painter-artist himself would delight in, and show Mr. Clarke's artistic appreciation of nature. His pictures are not mere perceptions, but reproductions of his conception of beauty in nature, and they please us unconsciously and charm by their poetical truthfulness. It is his ability to control and idealize his pictures that stamps him as an artist of no mean ability, who will undoubtedly be heard from later in the picture world. Others, like Louis Fleckenstein, W. H. Zerbe, Jr., Theodore Eitel, W. H. Porterfield, Charles Vandervelde, were a close second in this contest, and express themselves esthetically, each in his own individual way. Their pictures are sane and wholesome, and show evidences of an artistic feeling that it is easy to interpret and to find pleasure in.

As will be seen, this group of workers represents two entirely distinct schools of photography. Messrs. Fleckenstein, Porterfield, and Vandervelde appeal rather to the imagination through their pictures, and favor the more advanced school of photographic thought, while Messrs. Zerbe and Eitel hold to the middle course and the orthodox way of doing things. Their pictures speak directly because of their mastery of composition and their ability to select only what is essential to their story. This principle of selection is one that must, after all, underlie all art. And while a knowledge of composition is a natural gift to some men, those who are without it can cultivate it by studying the works of the great artists and of nature. In analyzing these pictures to understand why they are so successful, one realizes at once that everything in the photographs helps the story. There is no superfluous detail. The central motive is always easily discernible, while each minor detail has a certain relative importance to the chief object of interest. It is not to be expected that one can fathom all the beauties of nature, much less express them adequately in a photograph. But what is essential is a deep appreciation, at least, of what is beautiful in nature. This sympathy, and this feeling, when rightly expressed, will give true pictorial and artistic values to a picture. It is this quality, we are happy to say, that we recognize most in some of these pictures submitted in this fourth annual competition.

Considering what a power for good these annual competitions are, we regret that time and the exigencies of space will not permit a more studied and exhaustive criticism, in this issue, of the many other good pictures of this competition. We hope, however, to publish the better ones, later on during the year, when we may return to this subject again in a more extended way. For the present we will say, let us praise photography for the interest it gives us in nature and humanity, and the love it arouses in us for all things beautiful. Let us be thankful for the power it vests us with, to make records of some of nature's simple beauty, even when our only medium of expression is a camera.

THEODORE EITEL THIRD PRIZE, CLASS B "YOUR MOVE"

THE PRINCIPLES OF PHOTOGRAPHY BRIEFLY STATED

PHIL M. RILEY

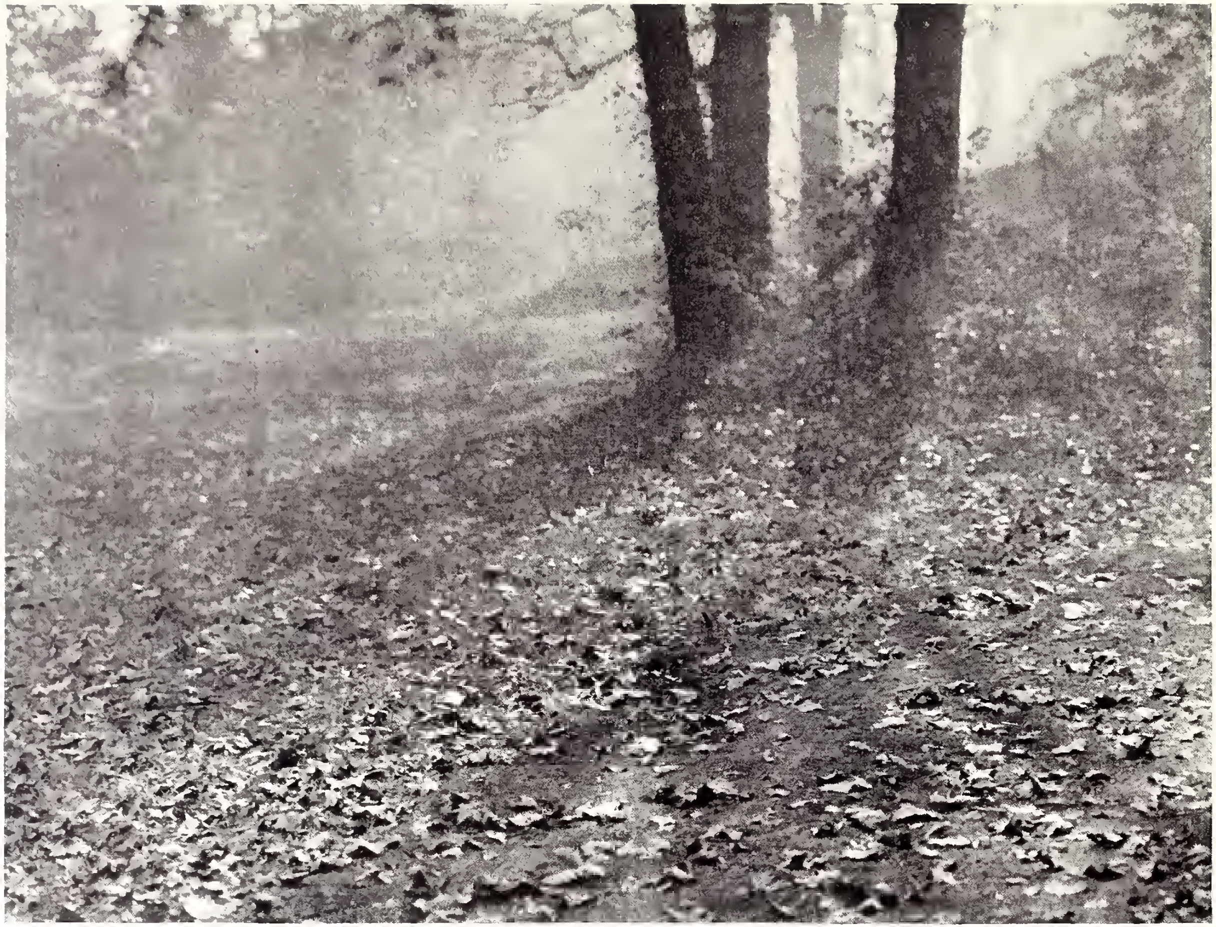
Thirteenth Paper — Photographing Interiors

1. *Apparatus.* — Early in the career of every photographer comes the desire to make pictures of the interiors of his own home, those of his friends and possibly of churches, libraries or other public buildings; and I venture to say that any professional will tell you that the gratification of this desire is a simple matter until you attempt it. This is certainly true if the worker has confined his efforts to outdoor picture making, and attempts interiors without some careful thought or a study of the different conditions which will be met with. Successful interior photography is hedged in by many difficulties not encountered outdoors, but knowing just what they are and how obviated renders the subject comparatively simple. The two chief reasons for poor success in this branch of work are faulty perspective and poor lighting; the first of these brings us at once to the consideration of the apparatus needed.

Photographing interiors is in reality a branch of architectural work, and the apparatus best suited to it has already been given a detailed description in the eleventh paper of this series. Whatever the camera procured for this work may be, a rising, falling and sliding front should be available to increase or decrease the floor or ceiling space. A central swing-back is often of service, and it should also be reversible, so that the slide may be drawn from the plateholder in any one of four directions at will. This is often convenient when working in corners and many other restricted places. If wide angle lenses are to be used, as is often the case, the back of the camera must be arranged to slide forward on its bed, or else the bed itself must be of the hinged type to drop in front; otherwise the image of the bed may cut off part of the desired view. A spirit level will be found very convenient in dark interiors, and a firm tripod is of course indispensable.

The most important part of the equipment is the lens, which should at least be rectilinear. If figures are to be included, an anastigmat will be necessary to reduce the time of exposure, but for the ordinary interior, however, short exposures are not necessary and a rapid rectilinear will do the work as well. It is the focal length which particularly demands our attention, because the angle of view and the perspective are always dependent upon the relation between the focal length of the lens and the base measurement of the plate it is intended to cover. In the eleventh paper was stated the fact that although the eye embraces an angle of vision not far from 120 degrees in extent, only about 50 degrees of the central portion is distinct. Therefore photographs made with lenses embracing an angle of 50 degrees are sure to give pleasing perspective from a carefully chosen point of view, but the more we increase this normal visual angle, the more exaggerated will the perspective become. It is evident, then, that in general lenses should not have focal lengths of less than 5½ inches for 4 x 5 cameras; 7½ inches for 5 x 7; 9¼ inches for 6½ x 8½; and 10½ inches for 8 x 10. Here the photographer's troubles begin; for, although the fact is not realized outdoors, as soon as he attempts an interior he is at once disappointed with the small amount of view included, and if the room is small, recourse must be had to wide angle lenses of short focal length. But a word of caution should be inserted here. Faulty perspective in architectural work of any kind is nearly always the result of using a wide angle lens, so avoid it whenever possible. With lenses including an angle of 70 degrees, a very pleasing picture may be made of almost any room from a good point of view; but when extreme angle lenses including 90 degrees or more are strictly necessary, the greatest possible care must be exercised in choosing the point of view, and even then the perspective will be noticeably exaggerated. The focal lengths of lenses giving an angle of 70 degrees are about 3½ inches for 4 x 5 cameras; 5 inches for 5 x 7; 6 inches for 6½ x 8½; and 7 inches for 8 x 10. Their speed rarely exceeds f. 16, but as short exposures are unnecessary and small stops are always used indoors for securing definition, this fact is no detriment.

2. *Plates.* — Ordinary plates of medium rapidity may be used when windows are not included in the view; but if they are included, halation is sure to result. Halation has always been a source of great annoyance to photographers, and until within a comparatively short time it was necessary to avoid windows



THEODORE EITEL FIRST PRIZE, CLASS A AT THE EDGE OF THE FOREST in interior work almost entirely; but with the appearance of plate backings and double-coated plates upon the market, picture making indoors has been greatly facilitated and improved. Halation no longer presents any practical difficulty and may be overcome by either of the two methods just mentioned. By far the better and simpler way is to use double-coated plates, and factorial development.

3. *Point of View.* — As has already been suggested, the point of view from which a picture is made has much to do with its ultimate success or failure. It is advisable to take a position which will include two sides of a room; or if the room is long and narrow, three sides will of course be embraced, and the camera should be placed a little to one side, in order to prevent all converging lines from directing themselves toward a vanishing point at the center of the plate, and also the horizontal lines of the farthest wall from being parallel. One-point perspective and parallel horizontal vanishing lines are never pleasing, and for this reason, when a single wall is shown, the lines should be made to converge slightly toward an imaginary vanishing point at the right or left by setting the camera a little to one side of a central position. If a pleasing view may be had without including windows, the work becomes easier of accomplishment, but windows, and doors as well, always add character to the picture, and by the use of non-halation plates and proper care and manipulation little danger is incurred by including them. Open doors leading to adjoining rooms or even outdoors, are helpful in many ways. When making pictures of small rooms one may often set the camera in an adjoining room and photograph through the doorway; or when included in the view itself they often add character as well as extra illumination. Pictures of small interiors, especially, are improved by a vista through one room into another; the effect being an apparent distance which seems to conceal the cramped appearance which would otherwise result. Care should be exercised to see that no conspicuous piece of furniture is too near the camera, or is cut in half by the edge of the plate. A larger proportion of the floor than of the ceiling may be included to advantage, and this suggests that the height of the point of view is also important. If the camera is placed too high the floor gives one the impression of a slope, and with a similar effect in the ceiling may at times actually cause distortion. From 40 to 48 inches is about the right height for the ordinary interior; but of course the larger the room the higher the camera may be placed.

4. *Composition.* — Harmony, and above all simplicity of arrangement, should be sought for in composing interior scenes. Foregrounds demand especial attention because true perspective gives objects near the camera the effect of being considerably magnified, which is perfectly correct, but unpleasing to the eye. On the whole it is best to have the foregrounds practically clear, except for small, simple objects. Avoid getting large or dark pieces of furniture near the camera to dwarf the other objects included. Colors make a big difference, and so very dark objects should, as far as possible, be placed in well lighted positions, while light objects may be placed in darker positions. All this, how-

ever, tends toward formal arrangement, which must be avoided if our views are to portray the spirit of the scene. The charm of a home interior to those who know the place depends upon familiar arrangement, and a well-remembered object misplaced for the sake of composition takes away much of the pleasure which the picture would otherwise give. So let us not attempt stiff and formal pictures of our homes; let us instead picture the rooms as they are in everyday life. A little notice will sometimes suggest possible improvements, it is true, and a certain amount of arrangement is nearly always necessary before exposure, but let the changes be as inconsiderable as may be. Most of our rooms contain too much furniture and knick-knacks, and it seems as if the smaller a room is the more people always try to get into it. The effect appears incongruous enough to the eye, but in a photograph it gives the room a cramped, overcrowded look which is far from pleasing. Unnecessary furniture may often be removed to advantage, but little objects which convey the idea of occupancy and life should remain, as they help the sentiment of pictures wonderfully. A few books or magazines on the library desk or an open book with a chair drawn up to the table near it, a handkerchief or fan which has been carelessly left on some article of furniture, a child's toy, a mandolin, guitar, or even the family work-basket with its heterogeneous assortment of mending — they are all little articles one sees in living rooms. Be consistent, however, and careful of the fitness of things. A dainty pair of my lady's slippers may give just the right touch to the picture of a bedroom, but if seen in the photograph of a parlor those same little slippers would convey an idea of untidiness not to be tolerated; some open music at the piano or a bowl of flowers somewhere about the room would be much more appropriate.

5. *Reflections.* — Reflections from the glass over pictures are often troublesome, and mirrors frequently give an overcrowded appearance to the room, or at times reflect strong light which is very hard to manage. A little observation before exposure will usually indicate what must be done. The most common and satisfactory wrinkle is to change the angle at which a picture is hung by varying the length and position of the picture cords, or by placing a wad of paper of the right size behind one of the corners bearing on the wall. Either a mirror or a picture may often be moved slightly along the wall to a position where a bad reflection will be avoided. It sometimes happens that a stationary mirror, such as is found over a fireplace, catches a shaft of strong outside light. This may sometimes be screened out; but if it cannot be controlled, the best remedy is to dull the mirror by smearing it over evenly with a small piece of putty.

6. *Focusing.* — Focusing is sometimes quite difficult and requires care, because excellent definition is desired. Uneven lighting and a lack of general illumination are the chief hindrances. A good method is to first admit all the light possible for focusing, after which the lighting may be planned which gives the best effect. In very dark rooms a lighted candle placed at different points in the view will be of great assistance.

MRS. HELEN P. GATCH FIFTH PRIZE, CLASS B GOSSIP

7. *Lighting.* — Lighting presents a complex problem because of the inequality of illumination and the varied directions of light entering from different sources, so as to cause a confusion of contradicting shadows. The worker will at once learn that oftentimes rooms which please the eye do not give the same satisfaction when photographed. This is due to the fact that contrasts which the eye hardly notices become harsh when narrowed down to the small size of the print. Therefore in ordinary interior work it is desirable to equalize the lighting to some extent. Many different ways of doing this suggest themselves, but first of all the time at which an exposure should be made ought to be thought of. As in every other branch of photography, the lighting of an interior varies with the month of the year, the hour of the day and the condition of the atmosphere or the weather. It is always a big advantage if the worker can become familiar with the interiors he is to photograph as they appear under different conditions, and if necessary wait for the most favorable time, as indicated by observation, before making an exposure. In the case of the average amateur, at least, interiors are usually attempted during the winter months when picture material outdoors is not so plentiful, and this natural tendency is a fortunate one, the diffused light which prevails from November to April being especially favorable for the work. Broad sunlight usually gives too forcible contrasts in a room, while the more quiet light of early morning will often give the best possible results. In rooms where the contrasts cannot be sufficiently overcome in this way, and the windows or doors forming the source of light are not included in

EDWIN R. JACKSON SEVENTH PRIZE, CLASS B DESPAIR

the view, a good method is to screen the windows or doors with thin white muslin. This expedient will usually prove most satisfactory and effectual.

In rooms facing the south, where the strongest contrasts usually occur, the inequality of illumination may be controlled to quite an extent by drawing down the shades during the greater part of the exposure, and then raising them for a few seconds toward the last, to give the lighting of the room a little more of its ordinary appearance and vigor. The broad light upon the floor of any room may be softened by drawing the shades down part way from the top. Closing or opening doors leading to other rooms is frequently a help in equalizing the light, and connecting rooms as seen through arches of sliding doors are nearly always pleasing. It not infrequently happens in photographing modern houses that a view is desired from a parlor or reception hall looking through the hall proper into the library or living room beyond. If the first two are dark and the third brightly lighted, an exposure for one lighting would be wholly unsatisfactory for the other. It would be natural to give a long exposure for the nearer, dark rooms, with the result that the third room would be greatly overexposed. In such a case the proper way to proceed would be to set up a screen made of opaque black paper or cloth just back of the opening into the last room, thus completely blocking it out. A long exposure may be given for the first two rooms, after which the shutter may be closed, the screen removed, and a second short exposure given for the third room. This method should never be attempted by closing sliding doors as a screen, for there are sure to be reflections from the varnish on the moldings which will show in the negative.

Even lighting is of course much more easily secured when windows are not included, but when they are, the worker should avoid making views against very strong outside light. By waiting a few hours until the sun gets around to one side, much better results are sure to follow. Whatever the conditions may be, however, the shadows cast by furniture are usually bad when photographing against a window, especially if the window included is the only source of light. If there are other windows, the shadows may not be so black and prominent; if not, reflectors must be used to light the shadows. Sections of white cloth hung up in advantageous places outside the field of view serve the purpose, but they will be much more satisfactory if tightly stretched over light wooden frames.

It is not best to depend too much upon the non-halation qualities of plates, and if the light entering a window included in the field of view is very bright, it will be advisable to rely upon illumination from other windows and reflectors, so that the window included may be blocked out during most of the exposure time. This should be done by tacking black paper or cloth — black opaque curtain cloth is best — over the outside of the window. If the window happens to be high up and not easily accessible from the outside, it will not be much work to make a light wooden frame to fit in rather tightly between the casings just in front of the sash. It may then be covered with black opaque cloth or paper, and will serve as well as a curtain outside. With the window blocked out in this manner, give the correct exposure for the interior and close the shutter. Remove the black cloth or paper, being careful not to move any article of furniture in the room, and then give a short exposure for the view through the window. In this manner both interior and exterior receive correct exposures, and the vista through the window adds greatly to the interest of the picture. A flashlight is often employed for interior illumination, followed by a short exposure for the exterior; but that method will be taken up next month in the paper on "Interiors by Flashlight."

8. *Exposure.* — The aspirant in interior work soon finds a difficulty in connection with illumination other than its inequality; it is illumination in its relation to exposure. Accustomed as he is to making outdoor exposures in bright sunlight, it is very difficult for him to arrive at a full realization of the great difference between the intensity of light outdoors and inside. The average outdoor view receives 1–50th second exposure with stop 4 or 8, and it is almost beyond the belief of a beginner that a view indoors, even although it is of a brightly lighted room, requires that the outdoor exposure be multiplied by at least several hundred times to secure a pleasing and suitable negative. Outdoors the light is ample in quantity and above all widely diffused, while indoors it is extremely unequal and almost entirely without diffusion; bright light confronts the worker in one spot and deep shadow in another. The eye tends to equalize these opposed conditions and seems to accommodate itself to them quite readily, but the lens in its rendering on the plate is wofully exact. A full

exposure with double-coated plates tends to minimize this contrast and give detail as well; therefore it may be said that the great rule in making interior exposures is to make sure that the exposure time is in every case sufficient.

One must first of all become familiar with the conditions indoors; one must learn how light acts when confined by the walls of a room and how little it penetrates the shadows cast by different articles of furniture, especially when photographing almost against the source of light. All this must be thoroughly learned before successful work can be done either by daylight or flashlight, and observation and experience or an exposure meter are the only means of arriving at a reliable criterion. Outdoors the different conditions may be grouped under several heads and the proper exposures calculated with something approaching mathematical precision, so that the figures may be tabulated and applied as needed. Thus it is that we have exposure tables which cover all ordinary exterior work in a very complete and satisfactory manner. On the other hand, it is difficult, if not almost impossible, to find two interiors which possess the same characteristics, and the conditions or factors to be taken into consideration in determining what exposure to give are too many to make tabulation for general use very practicable. The character of the room and furnishings, the color of the objects, especially those near the camera, the number and size of the windows which admit light, and the direction of that light, the time of year, time of day, the condition of the weather outdoors, the position of the sun with reference to the windows, the size of stop used and the speed of the plate are all factors having their influence upon the exposure time, and might vary it from ten seconds to several hours. From this it may be seen that to attempt an exposure table for general interior work would be absolute folly.

It is possible, however, for the benefit of the novice, to suggest a few exposures for the conditions most commonly met with, although the figures given should not be regarded as exact, but rather as suggestive examples which may need to be modified slightly to fit the case in hand. Under ordinary circumstances the figures will not be far wrong, and if the first attempt is not a success, a second or third exposure, made longer or shorter, as indicated by the fault in the first negative, will bring better success. The table below gives an approximation of the exposure necessary for six different classes of interiors when there is good sunlight outside, between the hours of 9 A.M. and 3 P.M., with stop No. 32, which gives excellent results with the ordinary rectilinear lens. Anastigmat lenses give fine definition with larger stops. As interiors are most satisfactory when taken on double-coated plates, which are about one fourth slower than the fastest plates, this table has been calculated for use with such brands as Seed's Non-Halation and Non-Halation Orthochromatic, Cramer's Instantaneous Isochromatic Non-Halation, Hammer's Aurora Non-Halation and Orthochromatic Non-Halation, Standard Orthonon, and all other plates listed in Class $1\frac{1}{4}$ of the exposure tables given in PHOTO ERA last March, and corrected and revised in the May issue. Every beginner should own these two numbers of PHOTO ERA, as they contain exposure tables for all kinds of outdoor work under every condition.

White walls lighted by two or more windows — 10 seconds.

White walls, lighted by one window — 15 seconds.

Medium walls, furniture and hangings lighted by two or more windows — 20 seconds.

Medium walls, furniture and hangings lighted by one window — 30 seconds.

Dark walls, furniture and hangings lighted by two or more windows — 50 seconds.

Dark walls, furniture and hangings lighted by one window — 100 seconds.

If the sun is slightly obscured, these exposures should be doubled; if the lighting is quite dull, it may be necessary to increase the figures five times; and when there are heavy black clouds, an increase of ten times will probably not be too great.

Many experienced photographers become so thoroughly acquainted with the conditions influencing exposure that by looking at the image on the ground glass they are able to estimate with considerable accuracy what the necessary exposure will be. It is at best mere guess work, however, even with the most proficient workers. The only way to be sure of a good interior view every time is to use an exposure meter, and there are several now on the market.

G. H. EWART TENTH PRIZE, CLASS B CHILD STUDY

FINISHING CARBON PRINTS WITHOUT SUBSEQUENT MOUNTING

W. FOSTER BRIGHAM

ONE of the most effective and simple methods of treating carbon prints is to print under a mask of suitable shape and transfer to support of sufficient size to leave an agreeable margin.

This effectually dispenses with the bugbear of mounting, and if done well the result is often a great deal more pleasing than if a quire or two of grocer's bag paper were used.

There is a great deal more scope for the author's taste than might at first be imagined. This taste can chiefly be shown in the selection of the support and the position of the image thereon, but there is also room for ingenuity in the choice of hand-work on the margin of the finished print.

In respect of paper for base we are far in advance of the non-carbon worker, who even if he print with margins must either trim and mount in the usual way or stick to the original paper stock. Also, it is much cheaper to print, say, on a half-plate piece of tissue and transfer to 12 x 10 support than to print direct on to a 12 x 10 piece of sensitive paper. There is, of course, the disadvantage that we are practically forced to use the single transfer process, but this is more apparent than real, for the number of cases when reversal matters is very much less than is generally thought.

For the support we have choice of etching, different makes of drawing and variously tinted crayon papers. Those who wish to coat a special paper will not find it difficult.

Pin paper to drawing board or other flat surface and coat with following solution: —

Nelson's No. 1 gelatine	1 oz.
Water	1 pint.

Soak gelatine for two or three hours in cold water and then dissolve by gentle heat; when dissolved add

Chrome alum	20 gr.
Warm water	2 oz.

This must be poured in very gradually, stirring the while. Filter and apply with broad camel's-hair brush. Two coats should be given; when dry, proceed as usual. As the treatment is alike for all rough single transfer papers (double transfer is as usual when printing for subsequent mounting), it will suffice if we describe the procedure with the useful etching paper. This paper can be obtained both toned (*i.e.*, buff) and white. The toned etching gives a very fine effect when used with red or sepia tissue.

As it is somewhat difficult to place tissue correctly on support, it is as well to make three marks corresponding to the corners of tissue either by pricking or with a pencil. In any case the back should be marked, as it is almost impossible to recognize the proper side of the prepared paper when it is wet. Even when dry it is not easy. Coated side of ready-prepared papers is usually the roughest. At times there are shining specks in places.

The great thing to remember with these rough papers is, that the support must be made pliable enough to squeeze into absolute contact with tissue. This pliability is somewhat hard to obtain. The paper must be soaked in cold water for two or more hours, and then placed for at least half an hour in hot water. After this treatment the paper should be soft enough to allow of the little hollows on the surface being forced into contact with the pigmented paper if fairly heavy pressure is used on the squeegee.

The sensitized tissue is printed in the usual way, using an opaque paper mask instead of a safe edge. When the single transfer paper is ready, immerse tissue in cold water until it begins to uncurl, then place on support. Support should be laid upon a flat surface and flooded with cold water. To avoid air-bubbles as far as possible, take tissue by opposite corners, raise hands and bend paper along the diagonal. Withdraw from water and place corner in position on one of the marks, lower other corner on to correct mark, and drop the hands until both surfaces are in contact. Now use the squeegee, which should be of the straight-edge pattern, with some force, sweeping from center of print outwards.

After a few strokes place between dry blotters, under a weight, leaving for at least thirty minutes before developing.

With these papers development should not be hurried by using too hot water, as the pigmented gelatine is even more liable to blister than usual. About 95 degs. will be quite hot enough.

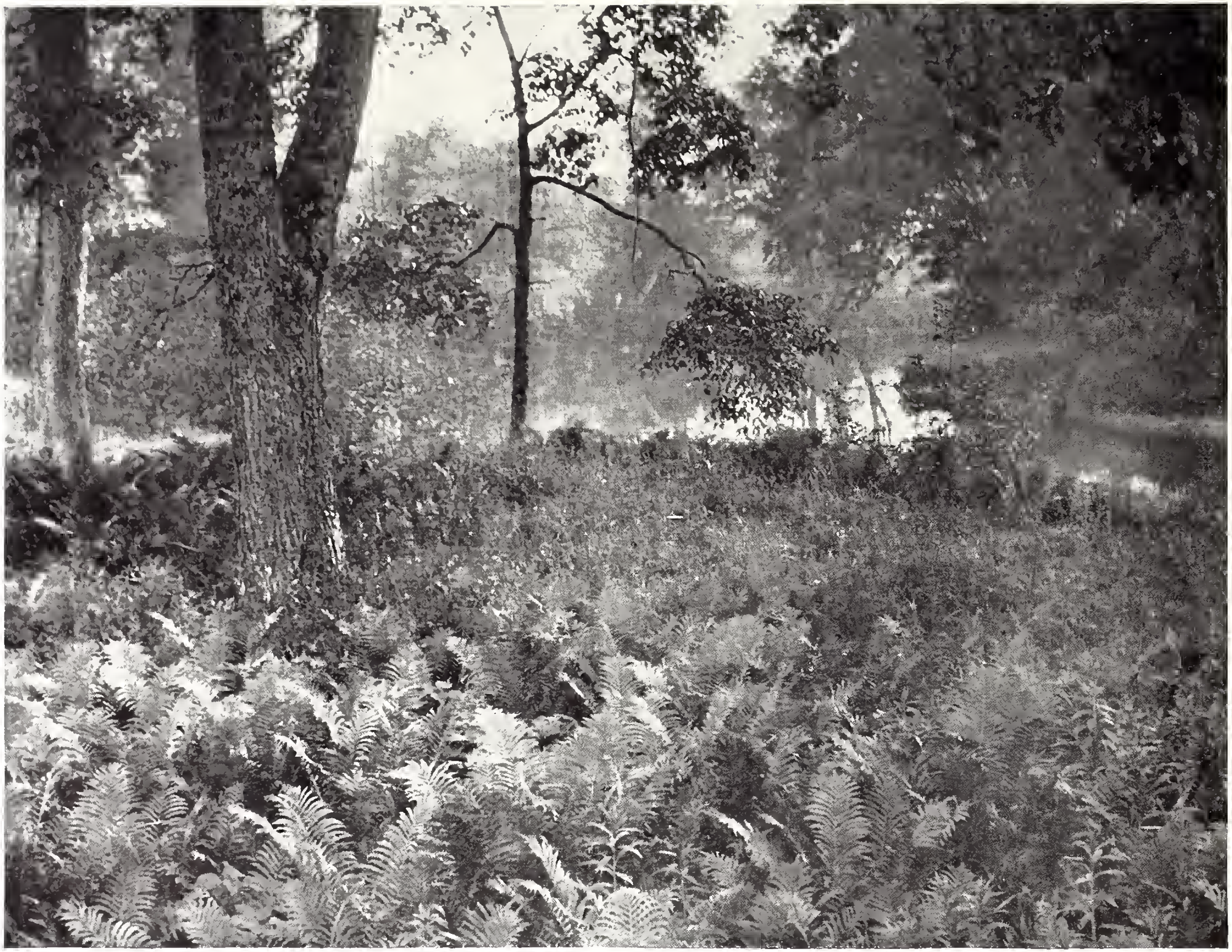
If tissue had been underexposed, soak for a longer period in warm water rather than raise the temperature of bath. Development should be complete in about five minutes — that is to say, print stops bleeding.

When developed, place picture in cold water to set the gelatine. To insure permanency the print should be placed in

Alum	1 oz.
Water	1 pint.

But I do not invariably do this, as the yellow bichromate stain is very pleasing with some subjects. If alum is used, prints are to be washed in running water for thirty minutes and then dried. You should now have a print which, if the tissue was squeegeed in correct position, requires no further treatment. Usually, however, it will be necessary to trim a little to get the sides of the subject and those of the mount parallel.

If the print appears to you to be too plain, a line drawn parallel to and at any distance from the print will give a good finish. Half an inch from print is a good distance. The line is easily made of any thickness by using a ruling pen. A set square is the best guide; be very careful with the corners. A black line with India ink suits most things. Variously colored inks can be obtained which will either harmonize or contrast with the print.



C. F. CLARK GRAND PRIZE COLLECTION FERN BANK

SIXTH PRIZE, CLASS B

F. E. BRONSON CURIOSITY

A double or even a triple line can sometimes be used with advantage, but beware of too much elaboration.

The title and author's name or hieroglyphic must invariably be of the same colored ink as line. The placing of these adjuncts has some bearing on the ultimate appearance of the whole, so should not be printed in without due thought.

If suitable margins are left and the lines are drawn neatly, the result should put to shame many of the multiple paper monstrosities.

This method of mounting on to thick support is capable of many variations.

It has been a surprise to me that carbon picture postcards are so little used. When done on etching paper, cut to size, the appearance is very fine, and a great relief from the ordinary bromide, or worse, P. O. P. cards.

The making of Christmas cards and calendars also comes to mind as suitable for this treatment; the print being directly on the support seems to be more in keeping with the idea.

Any mottoes or tables are easily written on the paper. — *The Amateur Photographer.*

SIXTH PRIZE, CLASS A

W. H. PHILLIPS THE BOATS, VENICE

METHOD AND CLEANLINESS IN PHOTOGRAPHY

JOHN BOYD

IF we step into a business office and see the occupant's desk littered all over with papers, and more scattered about on the floor, we put that man down as lacking method in his work, and wonder how he manages his affairs when everything is so mixed up; but when we stroll down the street, and stop to examine the show case or window display of the professional photographer, and note the covering of dust all over the prints and mounts, the latter frequently faded or stained with finger marks, and the whole display framed in with cobwebs, we are ready to gamble any amount of money that you cannot get through his studio, printing or dark rooms without the company insuring you against accident having a close call on its funds.

The old theory that permitted such conditions to continue, inasmuch as the owner happened to have a busy and successful trade, is long since dead, and the sooner the photographer learns this the better it will be for his future receipts.

Nowadays despatch is the life of business, and method is the soul of despatch, and I cannot think of a business man who was scrupulously clean in person and premises who did not make a success of anything he entered into. A well-pressed suit of clothes and a clean collar has carried many a man through difficulties that would have swamped him had he gone about with a frown, a wrinkle, or a rip, and so a clean window often leads to better business providing you carry out the practice in every other part of the establishment.

To be specific, we had better see how the average photographer regards the ethics of cleanliness and method.

A sitter comes in, and selects the style of picture, the mount, and the finish. The order is taken down in a plain scribbling book, made of cheap wrapping paper, when for a dollar or so a properly ruled and bound register can be bought which will last an average gallery several years. That's error number one, and an indication of what to expect farther on.

The lady (we will assume it is one) is ushered into the studio, and the *artist* gets busy immediately by wheeling the camera back to the wall, pulling half a dozen backgrounds this way and that to get at the one the sitter has selected, and before it is gotten at many more extraneous articles have had to be shifted, most of which are out of place under the skylight. The lady is a silent onlooker, and if she has a tidy turn about her, and most women have, she is possibly sorry she ever came to this place for her picture. She eventually gets into position, feeling somewhat ruffled, and despite the put-on-for-the-occasion smile of the operator, and his forced suavity, it is doubtful if either he or she are at their ease. This illustration is not far fetched, it occurs every day, with slight modifications, all over the land.

How much pleasanter and more businesslike it would be after the order was entered by the photographer, if he has not an assistant in the office to do it for him, to arrange all the fixings in the gallery while the lady is dressing and be in readiness to make the sitting when she is through her toilet. It is the excuse of many photographers who have to do all their own work that they cannot attend to everything at the proper time and in the way they would like to, but this excuse is just another weak one which means lack of forethought, and emphasizes the fact that method is essential if you would get through your work easily and with economy of time.

Did you ever watch a person packing things in a box? A methodical packer will get in half as much again and in less time than one who simply throws them in.

Elsewhere in the establishment you will see toning and fixing trays piled on top of one another or nested together irrespective of the consequences, and how many times will you see a tray or a graduate given a single rinse under the tap and set away, to be brought forth again when needed without a further wash. How can good work continue under such conditions?

In the printing room we see negatives placed in the frames without being cleaned, the result being blotchy prints, some of which will need excessive spotting before they can be delivered, and it is very probable that even spotting will not remedy the defects. How long would it take to give the negatives a good cleaning, and even a polish before starting work for the day? Not as many seconds as it will take minutes later on to do the spotting. It only means a little application of the essences of method and cleanliness, and later on the worker will apply both instinctively.

When did you dust your shelves and tables last? You forget. Suppose you didn't think that dust in such places is as natural as grass in the fields. Now don't get busy when you read this and forthwith get a dry duster or a house bellows and tackle the insides of your rooms. If you do, you are only transferring the particles from one place to another, and the chances are you will suffer more from your good intentions.

Start at it methodically by damping your duster, or putting a tuft of absorbent cotton over the nozzle of the bellows, and see how much better you can do it. The duster should be thoroughly washed after such a siege of labor, else you will find the cure worse than the disease.

Speaking about the effects of dust, a skilful photographer with whom I was talking one day remarked that So-and-so's plates were not as fast as they were. He had to give extra time in order to get properly exposed negatives. Had I noticed this? No, I thought they were every bit as sensitive as formerly. At this point of our talk he had to leave me for a few minutes, and I proceeded to put in the time by examining his lens, one of the newer makes which he had installed six or eight months previously, and to my horror found it was covered with a uniform film of dust. I was so surprised at my friend's action or rather inattention to this part of his outfit that I outlined with my finger tip on the front of the lens the word DIRT, and the letters were plainly legible a couple of feet away. When my friend returned we resumed the conversation. I took him over to his camera and said I thought his lens was responsible for his underexposed plates, and he had to admit it was a reasonable conclusion.

In cleaning lenses, especially the finely ground and polished ones, great care must be taken not to let dust particles be drawn across the surface, as they are apt to scratch, and in time impair their usefulness. It is better to first dust lightly with a fine camel's-hair brush, and finish up with a sheet of the prepared tissue paper, which is sold by opticians in books for this purpose.

It must be apparent to all that these precautions are somewhat time-worn, but who can say that they are practiced as they ought to be? The photographer is forever gathering up new ideas, but he must at the same time line up these ideas into something of a workable method, for there is no disguising the fact that he will carry twice as much silk packed up in bundles as he would if it was loose, flapping and hanging about his shoulders.

The professional brethren are expected to be conversant with all the harmful things that dirt will bring about, so I will not begin to enumerate a fraction of the places where it can be found any day of the week, and where it has no right to be; in fact, it is always in photography in the wrong place, for no one ever saw it mentioned in any of the formulas, yet few of them are used without more or less of it getting mixed in with the other ingredients.

What has been here said to the professional is equally applicable to the amateur, and what I shall now point out to the latter will fit into the everyday doings of any one who dabbles in the art.

I once said before a photographic club that dirt and uncleanliness were responsible for half the difficulties that beset the amateur, and as I listen to the tales of trouble that come to me year by year which are due to these causes, I am inclined to increase the ratio ascribable to foreign matter in the wrong place.

Dust is dirt, and dirt is organic enough to upset the workings of a recipe designed to accomplish certain results, and one way of proving it is to let it get into a gold toning bath, and note what happens.

Dust lodges on everything, from the dry plate to the carrying case; adheres to the trays and graduates and causes chemical disturbance; lodges on the lens and begets underexposed plates, and even general fog by reflecting light from the minute particles, a host of which may very readily fix themselves to the highly polished glasses; sticks to the fingers and is transferred to the emulsion side of dry plate and paper, enabling one to see exact reproductions of the human skin, a fine collection of which are to be seen in nearly every amateur's album; gets on the mount or in the paste, and punches holes in the print or raises it from the mount like a miniature Himalaya; lodges in the plate-holder and the withdrawal of the slide sucks it up for further distribution like an express train on a summer's day, the particles coming to light on development in the form of countless pinholes; hides in the dusting brush, so that instead of being a help in removing the trouble, it adds more particles to those already on the plate.

Lord Palmerston says, "Dirt is not dirt, but only something in the wrong place." So what I have said regarding dirt is intended to cover all kinds of chemicals, both liquid and solid, floating or otherwise.

Hypo, pyro, metol, magnesium powder, alum, and many other chemicals are valuable in their place, but let them come in contact with other substances in common use, and where they are not required, and they will surely prove a menace to successful work.

To combat the evil, one must needs pay close attention to all the conditions that surround him. First, look well to every part of your outfit, from the carrying case to the plate-holders; examine and keep clean every nook and corner of your dark room, and if it should have a whitewashed or calcimined ceiling, be ever on the alert, for particles will drop down when you least expect them, and being of an alkaline nature are particularly troublesome if they touch either plates or paper.

Bottles, graduates, and porcelain dishes should have regular and thorough cleansing with hydrochloric acid diluted with an equal quantity of water.

After using they should be thoroughly washed under the tap, then set aside, bottom side up, so that they may drain properly and gather as little contamination as possible.

Dusting brushes should be taken out of doors periodically, and thoroughly aired and beaten. They should never be laid down, where they will gather dust, but should be hung up in such a way as to be clear of shelf or wall.

C. F. CLARK GRAND PRIZE COLLECTION THE BROOK

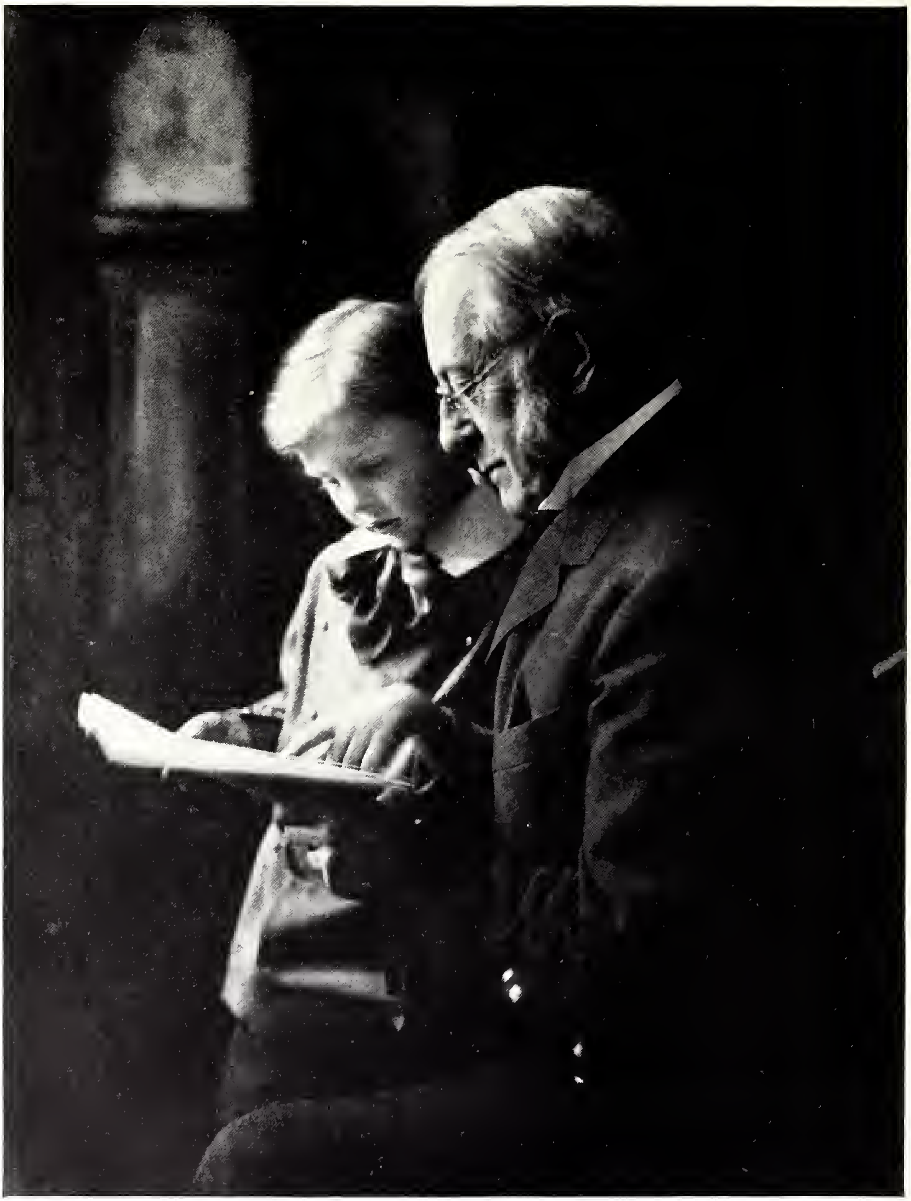
If we are to avoid all the troubles here shown, we must act on the assumption that no contamination can be permitted in our workrooms, that nothing short of absolute cleanliness in washing and dusting, using pure chemicals and pure water, will relieve us of the vexatious trials that beset us when least expected.

We should also give more than passing attention to the tidiness of our premises, for if a slovenly appearance is conveyed to the public whom you are desirous of pleasing, it will not be long before the fact will be common talk throughout the community by those who seek to pass along a string of uncomplimentary comments in preference to a word of commendation. Outside of all this we ought to take a pride in being neat in our appearances at all times and give the lie to the oft-repeated remark, "That he is about as slovenly as an artist."

We can do all this readily by tidy shelves, well-swept rooms, airy studio, clean windows, having a varied assortment of our work renewed at least twice a month — once a week would be better; nattiness in dress, and last but not least, a courteous and civil manner to every one who meets us.

A month's trial under converted conditions has paved the way to success to many a man who previously did not see the necessity for it, and it will do the same for others if they need it.

Neither method in our work or cleanliness in our manipulations is expensive to practice, but they are just as essential to success as the harder learned lessons that we consider so all-important.



CHARLES A. HOYLE
PRESIDENT ELIOT AND HIS GRANDSON

PRESIDENT ELIOT'S VIEWS ON FOOTBALL

EVERY year after the great Harvard-Yale game the merits and demerits of football are discussed in articles and editorials by periodicals throughout the country. This season the matter has received more attention than usual, but nothing has appeared more interesting than an article by President Eliot, of Harvard University, in the November *Success,* from which we quote the following: —

"The common justification offered for these hateful conditions is that football is a fight, and that its strategy and ethics are those of war. One may, therefore, resort in football to every ruse, stratagem, and deceit which would be justifiable in actual fighting. New tricks are always desirable as surprises. The weaker man is the legitimate prey of the stronger. One should always try to discover the weakest man in the opponent's line — as, for example, the man most recently injured — and attack him again and again. If a man, by repeated blows about the head and particularly on the jaw, has been visibly dazed, he is the man to attack at the next onset. If in the last encounter a player has been obviously lamed in leg or arm or shoulder, the brunt of an early attack should fall on him. As a corollary to this principle, it is justifiable for a player who is in good order to pretend that he is seriously hurt in order that he may draw the opponent's attack to the wrong place. These rules of action are all justifiable, and even necessary in the consummate savagery called war, in which the immediate object is to kill and disable as many of the enemy as possible. To surprise, ambuscade, and deceive the enemy, and invariably to overwhelm a smaller force by a greater one, are the expected methods of war.

"What, then, are the sources of the grave evils in this sport? They are (1) the immoderate desire to win intercollegiate games; (2) the frequent collisions in masses which make foul play invisible; (3) the profit from violations of rules; (4) the misleading assimilation of the game to war as regards its strategy and its ethics.

"On the question whether or not football victories do, as a matter of fact, contribute to the growth and reputation of a college or university, there are evidently two opinions. But if a college or university is primarily a place for training men for honorable, generous, and efficient service to the community at large, there ought not to be more than one opinion on the question whether a game, played under the actual conditions of football and with the barbarous ethics of warfare, can be a useful element in the training of young men for such high service. The essential thing for university youth to learn is the difference between practicing generously a liberal art and driving a trade or winning a fight, no matter how. Civilization has been long in possession of much higher ethics than those of war; and experience has abundantly proved that the highest efficiency for service, and the finest sort of courage in individual men may be accompanied by, and, indeed, spring from, unvarying generosity, gentleness, and good-will."

A PHOTO ERA TOUR IN EUROPE

Preparation, Ocean Voyage and Photography at Sea

WILFRED A. FRENCH PH. D.

EUROPEAN travel, like photography, is not necessarily expensive. All depends upon knowledge, experience and judgment. In any source of entertainment the novice pays for his experience. After all, the amount of money expended in either case is in proportion to the practitioner's ignorance or his inclination to extravagance. As the right sort of a person may practice photography enthusiastically, obtaining a vast amount of recreation and profit therefrom and all at a relatively low cost, so can an intelligent person indulge in the pleasures of foreign travel and yet not exceed an expense he can well afford, or which may be termed reasonable. Among the numerous pastimes during the winter months none affords more solid enjoyment and instruction, to the American tourist, than the collection of photographs of places of interest, which he himself photographed during a journey in distant parts of the world. The habitual globe trotter, for whom the wonders of the old world have no more attraction, finds new delights in his own country and, thanks to a trusty photographic equipment, he is privileged to study at ease and amid the comforts of his home the truthful records of a visit to the Yellowstone or the Canadian Rockies. In spite of the fact that the average American traveler has done Europe almost to the point of satiety, and that last season the combined fleets of transatlantic steamers conveyed nearly a quarter of a million American sight-seers to European ports, there remains a still larger number of persons, yearning for a first glimpse of foreign shores, but who are denied this pleasure simply on the score of expense. It is estimated that the enormous sum of twenty-five million dollars or more was spent by American tourists in Europe last season, and it is safe to assume that a large amount of this vast sum is due to wanton extravagance, as well as ignorance or indifference on the part of the tourist. Not only this, but the advertised rates for the transatlantic journey and certain fixed charges, for conveying the individual traveler to Europe and back, are usually so high as to be prohibitive. Besides, it is well known, that in nearly every instance the estimated cost of a European journey is greatly exceeded, either on account of expenditures unforeseen and not considered before the start, or likely to be incurred at any moment *en route*. Thus the inexperienced traveler is constantly exposed to the danger of spending more money than he originally intended. He has not learned how to correctly estimate the actual cost of an European journey or schooled himself in the art of successfully resisting the perpetual demands made upon his generosity. There are, however, persons resolved to practice rigid economy in making a European tour, availing themselves of certain advantages of steamship and railway transportation, and who actually solve the problem of expense at a minimum rate of $3.00 per day in Europe *tutto compreso*. This was the successful and happy experience of the members of a recent PHOTO ERA foreign tour, which announced to cost $645.00 for the round trip of eighty-one days, was done for less than $400.00, for they were resolved to go on a strictly economical basis or stay at home. This, of course, necessitated a few slight modifications in the manner of carrying out the original plans, but the journey itself, as mapped out at the beginning, suffered not a single radical change.

In putting such a scheme into practice it is necessary to observe the following conditions: First, not to set out on the journey during the rush season, but at a time when the intermediate rates are in operation, which, on the Hamburg-American line of steamers, extends from July 18 to October 31. Thus a direct saving of twenty-five per cent on the regular summer rates is effected. In this way the traveler avoids the rush of the multitude and is assured a better choice of accommodations and a calm and restful voyage. Second, to avoid taking passage on one of the numerous floating palaces, and to be content with one of the slower and less pretentious vessels, of the type of the "Pennsylvania" or "Graf Waldersee," which, while offering fewer luxuries, afford all necessary comforts and conveniences, and have proved highly satisfactory even to the most exacting of tourists. Besides, these vessels of moderate speed are free from the annoying vibration characteristic of the so-called grey-hounds, and four days additional on the ocean are certainly preferable to four days on terra firma from a health view-point. Indeed any one who has ever experienced the delightful sensation of ocean travel on one of these steady, comfortable and well-managed vessels from New York to Hamburg, will hesitate to patronize a tremendous ocean "flyer" except in a case where maximum speed is of paramount importance. Third, not to require too much in the way of luxurious hotel accommodations; for the knowing-ones can always find quarters that will meet any moderate requirement. Fourth, to remember that second class on European railways is equal to first class in the United States and often better. If one adopts this course and, in addition, takes advantage of the low-priced

WILFRED A. FRENCH CAPTAIN SPLIET

round-trip tickets, in use throughout Continental Europe, it is easy to effect a saving of fifty per cent on this item of travel alone. Fifth, a working-knowledge of French or German, for use on the Continent, is highly desirable, though not indispensable.

Thus equipped, our party left New York on the trusty "Pennsylvania" commanded by Captain Spliet, in July and, in anticipation of a restful and invigorating journey with its numerous and obvious benefits, several members of our party consulted the weighing machine, which, twelve days later, very properly supported the theory that good living on an ocean steamer is conducive to physical welfare. We abandoned ourselves to the various pastimes and diversions our surroundings afforded. Those of us in need of physical exercise made good use of the opportunities for open air recreation, while others, so inclined, enjoyed the *dolce far' niente* in places secure from the occasional buffetings of rude Boreas. The library, liberally provided with choice selections of literary works in English, French and German, allured those in quest of knowledge on topics amusing as well as instructive. We quickly learned to appreciate the exceptional opportunities here presented to acquire information about the many rare sights we were soon to enjoy. Works on foreign travel,

WILFRED A. FRENCH TOWN HALL, HAMBURG

art, music, etc., were found to be vastly more interesting than those on fiction or poetry. Classes in Euopean languages were formed and maintained to the end of the journey and it is really amazing how much substantial progress in this direction was made in the short space of twelve days. The peculiar construction of our ship, favorable to easy and uniformly steady locomotion, not only enabled all of us to banish the ills of the *mal de mer*, but to read and write with the utmost facility.

Although engaged in the pursuit of health, knowledge and pleasure on the high seas, several of the ship's passengers, including all the members of our own party, lost no opportunity to exercise their skill with the camera. A convenient dark room with facilities for developing plates was placed at our disposal and, thus equipped, the experts of our company organized a class in photography, which enabled the inexperienced camerists to acquire a solid preparation for photographic work to be carried out on the Continent. The principal feature of our photographic experiments aboard ship was portraiture in the open, which, in view of the difficulties usually experienced and the rarely satisfactory results obtained, proved of absorbing interest. The good captain, noted for being the most obliging of men, was averse to being photographed, urging, as an excuse, that the results of his acquiescence hitherto had not been gratifying, or complimentary to his personal appearance, although he was not given to vanity.

With the utmost good nature, however, he invited us into his cabin and there showed us a large number of photographs of himself made on board by friendly passengers, and appealed to us for judgment. Our sympathies at once went out to this hapless man, for it was impossible to discover even one acceptable likeness among the varied assortment of prints, some of which represented his face and hands as mere white patches, while others depicted him as a shadowy, meaningless figure. No wonder the gallant commander was distrustful of our ability as portraitists. Little did he realize, however, the extent of the artistic value that might be hidden in this package of despised and rejected prints. He had evidently not heard of the painful struggle for art recognition, which, for some time, had been convulsing two continents. When the good man had heartlessly flung the innocent packet into a corner of his desk, not a word of protest issued from the lips of those present. Whether our show of indifference was due to a desire to propitiate the captain—who was responsible for the safety of our persons and our luggage — or whatever the cause, will perhaps, never be known. The painful scene was terminated by the request, eloquently expressed by the leader of our party, that the captain vouchsafe us at least one sitting, the assurance being given that the exposed plate should be developed at once, and not a print made, except with his personal consent. It was even proposed that he should have the sole custody of the negative. The troubled look left his ruddy countenance, he acquiesced, and, rejoicing in its preliminary victory, the group of "Kodak fiends"—as we were lovingly designated by the practical and unsympathetic element aboard the vessel—sallied forth. Lots were drawn and the lucky portraitist went in quest of a convenient and favorable spot to perpetuate the face and figure of our excellent Captain Spliet. Whether the result justified the satisfaction of the brave captain, or whether it deserves to be reproduced in the pages of this magazine, we leave to be decided by our readers. All the same, the proof, when shown to "admiring friends," encouraged others to avail themselves of the convenient open-air studio facilities of the "Pennsylvania" and it is gratifying to state that, with the adequate assistance of willing models, our school of portrait photography at sea was soon in a flourishing condition and a goodly number of prints of a quality approved by the sitters as well as by our own jury was the result. Although enthusiastically devoted to portraiture and genre—without, however, neglecting our daily researches in foreign languages and European travel—we practiced, successfully, on ships that passed in the day, many learning, for the first time, to measure distances on the water with sufficient accuracy, as to obtain a picture of fair dimensions of a moving craft or other marine objects. Many admirable cloud effects, too, as well as several fine sunsets, were successfully impressed upon sensitive plate and film. The approach and stop at Dover presented many interesting sights, which also engaged the attention of our camerists. When the steeples and house-tops of Cuxhaven hove in sight, our cameras were once more called into play and performed inestimable service in the interest of consumer and manu-

WILFRED A. FRENCH
FURST BISMARK AT CUXHAVEN
CANAL AT HAMBURG

LOUIS FLECKENSTEIN SECOND PRIZE, CLASS B THE INTERIM

facturer. It is safe to say that, as regards this journey, at least, there were no regrets whatever on either side.

It would be hard to overrate the material advantages which accrued to each of us during this aquatic pleasure trip, almost ideal in its conditions from start to finish. Everything that could contribute health, comfort and happiness had been liberally provided, and at no time was it felt that the situation of the passengers of a palatial "flyer" was more enviable than ours. We enjoyed and improved each shining hour — in truth, the weather was perfect throughout the entire voyage — and later, during the progess of our journey on the Continent, our thoughts frequently turned to those calm and peaceful days passed on board of the "Pennsylvania."

In ten days the steamer reached Dover, discharging a small number of passengers, and in two days more brought us to Cuxhaven, at the mouth of the river Elbe, where we noticed the popular Hamburg-American liner "Furst Bismark" lying at dock. In former years as we remember, the steamer did not stop here, but continued considerable distance up the river Elbe, to the

CHAS. VANDERVELDE SECOND PRIZE, CLASS A A MISTY MORNING

port of Hamburg. Now, however, the passengers are landed at Cuxhaven and, after the usual, but brief, ceremony at the German Imperial Custom House, are swiftly conveyed by train, and at the steamship company's expense, to the city of Hamburg. It is a mistake to follow the example of the great majority of tourists who ignore this large, important and interesting city and speed at once towards Berlin or some other objective point. For several hundred years and up to within quite a recent date this ancient Hanseatic town was important only as a commercial center. Now, however, Hamburg is one of the finest and largest cities in Europe, rejoicing not only in several architectural classics, but in music and art compares favorably with any of the large capitals of Europe. We were duly impressed with the striking beauty of the Binnen Alster, surrounded as it is by some of the finest promenades in Europe. Here the architectural beauty of Hamburg finds its fullest and most eloquent expression. We consider the three days passed here among the most enjoyable of our journey, which with Hamburg made a most auspicious beginning.

THE EXPOSURE IN PORTRAITURE

A. LOCKETT

IT is probable that there is more incorrect exposure in portraiture than in any other class of work, for the simple reason that its results are not so readily apparent to the untrained eye. And yet it is precisely in this direction that the exposure is of vital consequence, since the whole merit of an otherwise excellent portrait may be totally eclipsed, in a manner insidious and difficult to explain or compensate for, by lack of attention to this important point.

Evils of Underexposure. — Insufficient exposure is the evil to be most shunned and avoided. Even a small amount will often suffice to disturb the modeling and expression of the face, giving an unpleasant lumpy look where there should be softness and grace, causing the eyes to stare, thickening the lips, and sometimes creating a "pug" effect in what is really an irreproachable nose. This is quite the commonest fault in amateur portraiture; defects which are laid down to improper lighting or clumsy arrangement being frequently traceable, in reality, to the hardness and chalkiness due to underexposure treated with a normal developer.

Methods of Shortening Exposure. — Apart from the obvious expedients of employing the most rapid plates, the largest lens aperture and the maximum of light available, it may be suggested that the sitter be placed as near the light as is consistent with artistic lighting, and that the illumination be concentrated on the face. A certain amount of underexposure in the other portions will not matter so much, provided the face is well exposed. An accessory artificial light may sometimes be employed to aid feeble daylight, but it must come from the same direction. The liberal use of a reflector, taking great care, however, not to flatten the modeling, greatly reduces the necessary exposure.

Effect of Orthochromatic Plates. — Where the light is somewhat yellow, or there are yellows in the composition of the picture, the use of orthochromatic plates (without a screen) tends to shorten the exposure, besides giving a better rendering of flesh texture. For the average run of "at home" work, however, extra rapid ordinary plates will be best. In studio and outdoor portraiture the advantages of orthochromatic plates are not sufficiently recognized, and are well worth a trial.

Length of Exposure as Affecting Expression. — Notwithstanding the old theory that a rather long exposure enables the individuality of the face to be more successfully obtained, owing to the imperceptible blending of divers expressions, which are all recorded together on the plate, it is probable that, in nine cases out of ten, a rapid exposure, seizing instantaneously on some happy or characteristic play of feature, will give the best result. With children, of course, the latter is practically imperative. For outdoor or studio work, the operator may no doubt please his own fancy in this respect; but with portraits in ordinary rooms instantaneous photography is out of the question, and much depends on the tact and management of the worker in being able to evoke and maintain a suitable and pleasing expression.

How to Minimize Underexposure. — Where underexposure cannot be avoided, a dilute developer should always be employed. The use of eikonogen is strongly indicated, as explained elsewhere. On no account should an underexposed portrait be forced by the addition of alkali. There is a distinct advantage in deliberately obtaining a rather thin negative, afterwards intensifying to a slight extent only. By this means a softer gradation will be secured. If by any chance a hard negative results, a slight reduction in weak ammonium persulphate will often set matters right.

Effect of Blinds, Glass, Color of Walls, etc. — The color and material of the blinds, whether in a studio or an ordinary room, have a marked effect on the exposure. Where the light is deficient, a thinner and lighter fabric than usual may be employed, so that, while regulating the direction of the illumination, a certain amount of diffused light is allowed to penetrate through them. Light walls are an evident advantage in gloomy situations, as long as no direct reflection is permitted. The color, transparency, and cleanliness of the glass are also of great importance. Some kinds of glass obstruct much more light than others, especially if of a yellowish tinge. Ground glass, although often an acquisition for the studio, is seldom advisable for "at home" work, except where the sun has to be kept out. There is a special glass now obtainable, cut in prismatic form, by means of which the light can be refracted from an otherwise inaccessible situation, so that a gloomy window may sometimes be turned into a light one. This, although expensive, is worth inquiry, in cases where no light can be obtained by the usual methods.

Sources of Avoidable Loss of Light. — Besides those already mentioned, it is well to remember that quite an appreciable amount of light is wasted by neglecting to keep the lens clean. This should be done at regular intervals, with a soft silk handkerchief. If a cloudiness or yellowness is detected, due to deterioration of the Canada balsam used in cementing the glasses together, it is best to take the lens to an optician to be cleaned and re-cemented. Sometimes the glass itself yellows or deteriorates; for this there is no remedy, although it may be suggested that orthochromatic plates might give greater rapidity than the ordinary variety under such circumstances. The same remark applies to studio and window glass; if there is a perceptible degree of yellowing in these it is better to have fresh glass put in. Very often a studio or room will retain smoke, mist or fog, after the outside atmosphere is clear. This must be driven out by throwing open all available doors and windows.

Some Apparent Paradoxes in Exposure. — It might be thought that a portrait taken against a white background will require less exposure than if a black one were used. The direct reverse is, however, the case. This is due to the fact that there is much more contrast of light and shade in the former instance, necessitating a more liberal exposure to avoid a chalky effect.

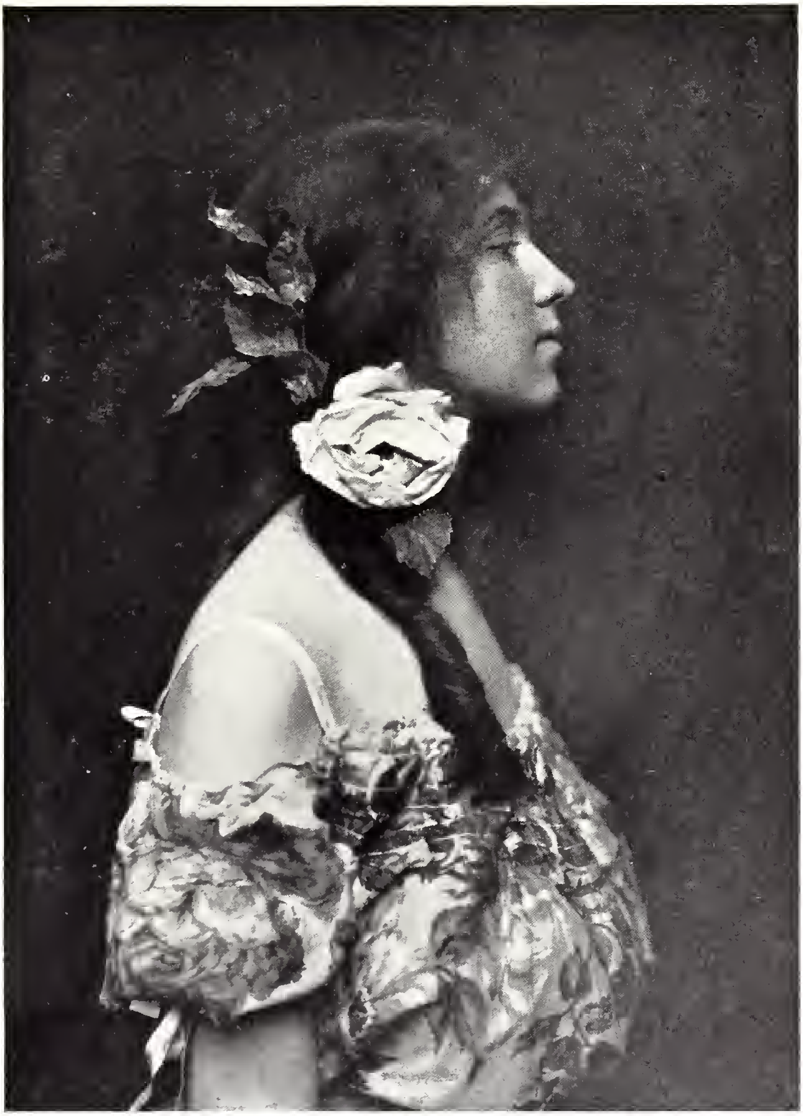
Another thing which often puzzles the beginner is why a large head should require a longer exposure than a three-quarter or full-length portrait, considering that the camera is nearer the source of light. The explanation is that, not only does the greater amount of intervening atmosphere in the case of the full-length tend to soften the contrasts by throwing, as it were, a luminous veil in front of the sitter, but, a fact which is often overlooked, the camera extension required is less, thus increasing the relative size of the lens aperture.

Choice of Developer in Relation to Exposure. — While it is undoubtedly wise to keep to one developer until some experience has been gained, it will soon be found that a wonderful amount of control is possible by using different developers for specified purposes. For instance, for outdoor portraits in a bright light, where a flat result is feared, a somewhat restrained pyro solution will probably give the best negative. For studio work, or in any case where the exposure is known to be about correct, pyro and metol, or ortol is advised, although many workers pin their faith to a slightly dilute but unrestrained pyro-soda developer. For underexposure or subjects with harsh contrasts, as is the case in many "at home" portraits, eikonogen or amidol is recommended. Generally speaking, the strength of the developer should be adjusted to the exposure.

Value of the Actinometer. — A reliable actinometer is of immense assistance in gauging the value of the light, and will save many wasted plates. Even the most expert operator is occasionally mistaken when relying on his own unaided judgment in this respect, owing to the fact that the eye automatically adapts itself to the changing light. The actinometer should be used just previous to arranging the sitter, holding it at about the position where the latter's head will come. It is, of course, unnecessary to do this with every exposure; testing the light at intervals of about an hour will be sufficient, unless a marked change is noticed.

Wisdom of Immediate Development. — It is the practice of many operators to expose a number of plates in succession, leaving development to another occasion. This seems a mistake, at any rate for indoor work, where dark-room facilities are available. If the negatives are developed one by one as they are taken, there is a far better opportunity of correcting faults and seeing that the desired effect is obtained. Although certainly more troublesome, and involving some inevitable loss of time, it is, nevertheless, a plan which is strongly recommended to the amateur. Nothing can be more aggravating than to spend perhaps a whole afternoon aiming at a special effect, only to find when the sitter is gone that some overlooked flaw, which could have been immediately set right if known, is present in every negative.

Overexposure a Lesser Evil than Underexposure. — In cases where the exposure is in doubt, it is always preferable to over rather than under expose. The worker should never let his fears of getting a flat negative induce him to incur the certain ruin of tone values and modeling, which will surely follow from even a slight degree of underexposure in portraiture. The only exception



MISS REINEKE & CO.
THE PRINCESS
NINTH PRIZE, CLASS B

C. F. CLARK GRAND PRIZE COLLECTION THE BROOK IN THE WOODS

which can be made to this rule is in the case of outdoor work, where a small amount of underexposure may even sometimes be necessary, and will not produce such objectionable results. But generally speaking, it is safer to err on the other side; for overexposure, unless extreme, is readily corrected, and in portrait work is often an unexpected improvement.

Common Mistakes Regarding Overexposure. — The effect of too strong a developer is often mistaken for overexposure. A rapid appearance of the image quite as often as not simply indicates the desirability of diluting the developer. The addition of bromide is seldom advisable in portrait work, it being better to diminish the amount of alkali, or to put up with a thin negative which may be afterwards intensified. A flat, lifeless negative does not necessarily indicate overexposure; it may be the result of a flat lighting, especially in outdoor work. It is preferable to secure more contrast in the lighting and take another negative, rather than decrease the exposure.

Rapid vs. Slow Development. — In portraiture, the advantage is all on the side of slow development, with a comparatively dilute developer; say, a normal one to which from an equal amount to twice as much water is added. This means the exercise of a little more patience, but far softer and more artistic results are obtained. — *The Practical Photographer, No.* 16.

THE URANIUM PROCESS

JAMES H. McCORKLE

IN taking up the uranium process again, it is not my purpose to go into the methods and formulas to any extent, but rather to treat the subject on its relation to general use among photographers, both professional and amateur.

I have found that of late, the questions of ways and means to attract the attention of the public is the aim of even the most artistic workers of the photographic art, and they are beginning to realize that with this comparatively simple method they can secure results never even thought of before.

While the process is by no means a new one, yet like many things discovered years ago, it is only recently that its real value to photography has been appreciated.

It was only a short time ago when black and sepia were the only colors of platinum pictures to be seen, and many of the so-called sepias were in reality a sickly sort of yellow brown. When such a print is compared with the rich seal browns of to-day, the great difference is at once appreciated.

By careful manipulation, a picture on platinotype paper can be developed, cleared slightly in the acid bath, then toned in the uranium bath to a very beautiful blue; again clearing it in acid, and reimmersing it in the uranium bath, the shadows will begin to turn a deep olive color. The print can be stopped at this point by clearing in the acid bath and washing thoroughly, or allowed to turn a still darker brown, even to a deep chocolate color. Yet in such a case the effect will hardly be pleasing, the slight bluish tinge in the high lights being too harsh.

Taking up this same print, now a deep chocolate color, we place it in the original oxalate developer, and again we have a black and white print, the oxalate removing every trace of color. From now on we cannot get the blue tones again; but by clearing very thoroughly in the acid bath and retoning in uranium, we can get the various shades of red and brown.

The reds come from toning a light print in a freshly made uranium bath, while the chocolate tones come from a bath practically used up, or which has commenced to precipitate. The range of colors obtained by this process is remarkable, giving the blue tones from Prussian blue up to a delicate sky blue, including the rich tones of a carbon print. The red tones go from a brilliant red down through brick color to a deep, soft brown, and in many cases colors are obtained that it is impossible to produce again.

The claim is made that the process is unreliable, and will not give the same colors repeatedly. This is certainly a wrong impression. If both the prints and uranium bath are handled in identically the same way and the toning is stopped at the same point, the colors resulting will be the same.

Another claim is that the colors will fade. My experience has been otherwise; I can safely say that I consider the colors practically permanent.

This method of toning opens up a large field for experiment and individuality in the handling of prints, and it also enables the operator to produce several dissimilar effects from the same negative.

Nothing connected with this branch of the art is so interesting as a comparison of six or seven prints of the same subject, ranging from black through the blues, reds, and browns. I have many times demonstrated to beginners the simplicity of the entire method, and their failures can in every case be attributed to neglect on their part, — something left out or overlooked. One gentleman tried three different times and failed, and finally found he had forgotten to put any acid in his uranium bath. The next day he showed me some prints, as beautiful tones as I have ever seen, and he said: "It is so easy."

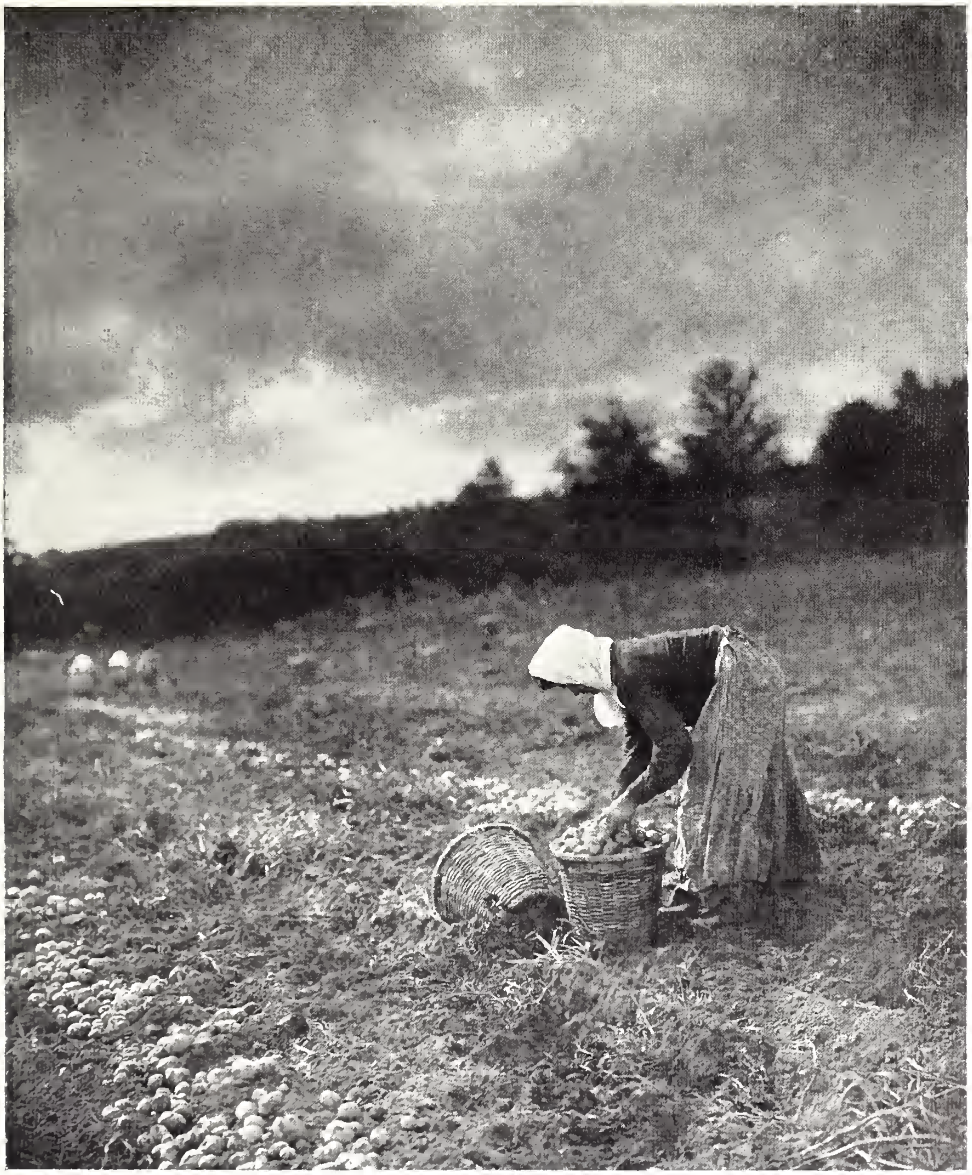
The uranium formula is nothing new, but the various manipulations of the print are, and the operators soon adopt certain modifications to suit themselves, but unless it is intended to follow up this class of work consistently, I advise its being left alone.

The bath is made up as follows: No. 1. 10 gr. nitrate uranium, 5 oz. water, 1 dram glacial acetic acid, or ½ dram muriatic acid. No. 2. 10 gr. ferricyanide potash (red prussiate), 5 oz. water, 1 dram glacial acetic acid, or ½ dram muriatic acid.

Mix just before using, and add a small piece of sulphite soda as large as a small pea. The bath is then ready for toning either reds or blues, the color depending entirely upon the amount of clearing in the acid bath after development of the print.

THREE-COLOR PORTRAITURE FROM THE COMMERCIAL STANDPOINT

THROUGHOUT every era of the history of photography the aspirations of its exponents have been towards the representation of objects in the colors of Nature. Even in the first delirium of enthusiasm with which the discovery of Daguerreotype was received by the French capital, that note did not lack expression. It was rumored that M. Daguerre had very little to do in order to give the last touch to his process by which it would attain perfection. That anticipation of fact has been with photography ever since. Assurances have been often unfulfilled, but now we stand not far outside the threshold of what practical photographers will regard as practical color photography. Signs are not wanting that the conviction of the commercial value of a process of color photography which might be employed in portraiture has steadily strengthened, and that the outlook on current advances is keener now than ever it has been before. The printing press has been in advance of the photographer in creating a taste for color among all sections of the community, and the monochromatic products of the photographic process are made to look pale beside the gorgeous hues of lithography and three-color



WM. H. ZERBE, JR.
THE POTATO HARVEST
FIRST PRIZE, CLASS B

half-tone. Yet there are signs also that the photographer is on the watch to provide what the public wants, as witness the colored miniature which has become a fixture in the price-list, and has proved highly profitable to many a business. The colored or tinted print, too, has had its share of attention, though not with any greater success than, in the majority of cases, its qualities entitled it to. But to what extent has there been any actual movement towards pressing processes of color photography into the service of the studio as a money winner? It cannot be said that any process can boast at present of any appreciable commercial application. It is within our knowledge that more than one method of color photography for which great things have been claimed have been seriously examined by leading photographers with a view to putting them into practice. But nothing came of them; the processes could not respond to the demands made upon them. Until the announcement some weeks ago that a studio had been opened in Berlin solely for portraiture by a three-color process, we could not have named any establishment in which such work was carried on on a commercial scale. A well-known German professional, Herr Perschied, has been associated with a modified three-color method, but we are not aware that he has actually put it in operation in the regular way of business, though presumably the process is technically a success. A more recent example of color photography in the professional's business has come before us in the shape of a considerable edition of portraits of the king, executed by Messrs. W. and D. Downey for the Indian Government. In this case a large colored portrait had been prepared from the original photograph of his Majesty, and over 500 smaller reproductions were supplied in the form of three-color half-tone process prints. This form of three-color print is not one which can often be applied in commercial photography, nor is it one which would, in the majority of instances, prove readily saleable. But in the case of his Majesty's portrait the final result of the framed print is very handsome. The execution of the order is certainly notable as showing the demand which exists in the highest circles for trichromatic prints in preference to photographs which, in everything but the possession of color, are immeasurably their superiors. Assuming this demand for the colored picture to be, as we believe it is, common to all classes of society, we may ask the question: Is it technically possible and commercially possible to supply the demand?

Technical possibility hinges chiefly on the minimum to which the exposures necessary for the making of the three negatives can be reduced. Commercial possibility depends chiefly on the cheapness with which the composite three-color prints can be produced. To take the negatives first, we believe it can be claimed for the modern orthochromatic plates, or for plates sensitized with the more recent dye sensitizers, that exposures for all three negatives, under favorable conditions of light, will not exceed a time which would be considered impossible by a photographer of adult sitters. Comparing three-exposure with one-exposure cameras for three-color work, the balance of practical advantage would seem to lie with the former, for the latter are costly, more difficult of adjustment, and introduce extra filters. With a one-lens camera, in which the three exposures are made successively, the whole operation need not occupy more than a few seconds, presuming, as we have already said, the very best studio conditions. The relation of the three exposures is even more important than the correct exposure as a whole, and for this reason an accurate shutter which will automatically give, say, 2, 1, and ½ seconds for the three screens or can be set for other ratios as the filters may require, is a most advisable method of exposure. The apparatus, therefore, for direct three-color negative-making is not unduly elaborate nor excessively costly.

Turning to the commercial possibility of the process, the facts for the guidance of the photographer are more difficult of quotation. In the case of large editions the negatives can be turned over to a printer and plate-maker in halftone or collotype, and proofs ordered to the number required, but that is a course which can be followed in few cases, and is practically useless to photographers whose order from a set of negatives cannot be expected to run to more than a dozen or two. The only practicable method for them is the triple-pigment print, the suggestion of which will perhaps be received with little enthusiasm by those who have listened to the accounts of difficulties from workers of that process. Such prints, it is surmised, must necessarily be producible only at a price which will be prohibitive for commercial work. We are not convinced of the truth of this argument. The materials of the three-color pigment prints are cheap enough; the cost is in the labor, and estimates of that cost are made regardless of the fact that no systematic use is made of the process. Before the process can be judged commercially possible or impossible, it is necessary to discover what form of labor can be employed to print and make the pigment trichromes. It was stated some time ago that the making of three-color prints was work requiring the patience of feminine hands for its proper performance. We would not assume that it is to be left to female labor to bring color-photography within commercial limits, but it may be pointed out that the important question of the systematic printing of trichromes on paper requires to be worked out in figures. As things are at present, the difficulty and uncertainty of the process become magnified from the fact that the most expert of those who work the process cannot claim to be more than beginners, and that the expense of the method at present simply represents the price of experience learnt by failure.

These considerations and others affecting the commercial status of the three-color process deserve the attention of the professional. At present the claims of the process require confirmation in practice, but we may anticipate that before very long the tri-color method will venture upon the arena of actual commercial application. Ten years ago, when the direct-color transparencies of Mr. Ives were prominently before the photographic world, the comment was: "Yes, this is all very well, but we want prints on paper." That request is now very near being granted. What use will be made of the new powers? — *British Journal of Photography.*

MRS. W. W. PEARCE EIGHTH PRIZE, CLASS B INTERESTED

CALCULATING ENLARGEMENTS WITHOUT TABLES

WILLIAM PERRY HOPKINS

ENLARGING and reducing a photograph to any given size is a much simpler matter of calculation than many of the text-books would lead us to believe. All one needs to know is the equivalent focus of the lens to be used. No tables whatever are necessary. The method is a simple matter of fractions "done in the head," for all ordinary calculations; and even the most elaborate combinations can be figured on a scrap of paper, without reference to any data whatever. The simplicity and accuracy of the method is best shown by a few examples.

Suppose we have a lens of six inches equivalent focus, and we wish to use it to make a 3 x (three times) enlargement — that is, an enlargement whose vertical and horizontal over-all measurements will be just three times as large as the original; which would give us a print 12 x 15 from a 4 x 5 negative.

We should merely have to *divide the focal length by the number of magnifications* (or times of enlargement) *and add the result to the focal length.*

This will give the proper distance from negative to lens. Thus 6 ÷ 3 = 2, and 6 + 2 = 8. Therefore, the distance from lens to negative is eight inches.

To find the proper distance between the lens and sensitive paper (or plate, if a transparency or enlarged negative) we may simply *multiply the number of inches so obtained by the times of enlargement* (8 x 3) and the result (24) represents the distance in inches.

So, if we wish to make a 4 x (four times) enlargement with the same lens, we divide the focal length (6) by the times of enlargement (4) and add the result to the focal length, making a total distance of 7½ inches from negative to lens. Multiplying this 7½ inches by the times of enlargement (4), we see that the paper should be 30 inches distant from the lens.

These figures are correct, not merely approximately so. Compare them with the result of estimates made up from any tables or elaborate old-time formulæ, heretofore published.

The rule follows along the same lines when using a lens of 12-inch focus. All the foregoing figures will be doubled, because the lens is double the focal length of the first lens. Therefore, a 3 x enlargement requires a distance of 16 inches from negative to lens, and 48 inches from paper to lens. Likewise, a 4 x enlargement changes these figures to 15 and 60 inches, respectively. The progressive idea is thus shown:—

Times of Enlargement.	Negative to Lens.	Lens to Paper or Plate.	Equivalent Focus of Lens.
1 x	12 inches	12 inches	6 inches
2 x	9 “	18 “	6 “
3 x	8 “	24 “	6 “
4 x	7½ “	30 “	6 “
5 x	7⅕ “	36 “	6 “
6 x	7 “	42 “	6 “

The above simple table makes it clear that for each diameter enlarged, the distance from lens to paper is increased just the equivalent focal length of the lens itself; while the distance from negative to lens is decreased a distance equal to one half, or one third, or one fourth of the focal length, or whatever the degree of enlargement may be. A 3 x enlargement adds one third the focal length to make the lens-to-negative distance. A 4 x enlargement adds one quarter in the same way.

No matter how fractional the equivalent focus happens to be, the method is unchanged. If we have a Collinear Series II, No. 4, which is of 7⅞ inch focus, the figures corresponding to the above would be:—

Times of Enlargement.	Negative to Lens.	Lens to Paper or Plate.	Equivalent Focus of Lens.
1 x	15.75 inches	15.75 inches	7.875 inches
2 x	11.8 “	23.6 “	7.875 “
3 x	10.5 “	31.5 “	7.875 “
4 x	9.84 “	39.37 “	7.875 “
5 x	9.45 “	47.25 “	7.875 “
6 x	9.18 “	55.08 “	7.875 “

Try the scheme any way you like. Test it to your satisfaction. Even if you usually consult a table, try it, and see how easy the result can be obtained without the tables.

It is equally plain that if one wishes to reduce instead of enlarge, the respective figures may be reversed. Thus if we are to reduce to one third the size of original with a 6-inch lens, the distance from lens to negative should be 24 inches, and that from lens to paper should be 8 inches. The other figures follow exactly the same rule.

Not the least advantage of the method as outlined is that it permits one to set up the camera with the lens at the proper distance from the negative, before figuring the lens-to-paper distance; so that you need dive only once under the focus-cloth, thus saving time in focusing. It is assumed, of course, that a back-focus camera is employed — such as nearly all the long-focus or copying cameras are fitted with — as thereby the lens-to-paper distance is not affected by the focusing. If a front focus camera is employed, the procedure may be reversed and the lens-to-negative distance first obtained.

Most amateurs forget that very satisfactory enlargements may be made on Velox, Rotox, Cyko, Vinco, Dekko, Argo, or the other so-called gaslight papers. It is not necessary to depend on the dark-room bromides. Indeed, there is a certain advantage in the use of the slower papers, as very often a greater latitude of exposure is allowable. If daylight is employed, and the window receives good light, the exposures need not be unduly long; and the very strong light will often serve to reduce the extreme contrast in underexposed or overdeveloped negatives, and will render softer results. This is doubly an advantage, inasmuch as enlargements are broader by virtue of the enlargement process, which makes each line wider; and therefore a general softening of the contrasts often aids in getting a more pleasing effect.

The variance in speed between the different grades of papers is not difficult to find, especially by taking a series of strips, one of each kind of paper, and exposing parts of them for graduated exposures. For example, use a half-inch-wide strip of Velox, Rotox, and Cyko. Expose, using a 2 x enlargement under a medium-dense negative, the first quarter for say one minute, the next for three minutes, the third for six minutes, and the remainder for ten minutes. This, roughly speaking, being for autumn exposure about three o'clock, with camera pointed toward the western horizon, at the height of a second-story window above ground. Development should be made of all three strips together, in the normal M-Q developer. Of course, the strips should be marked when taken from their envelopes, to prevent confusion.

Special Velox is from four to five times faster than regular Velox, and Portrait Cyko runs about ten times faster than the Carbon Cyko. Rotox is one hundred times slower than Rotograph (dark-room) bromide. Special Velox is about twelve times slower than Eastman bromide.

With these suggestions as guides and a very little experience, the exposure factor need not bother anybody very much.

J. H. FIELD
RETURN OF SPRING
TENTH PRIZE, CLASS A
W. H. PORTERFIELD
AURORA
FIFTH PRIZE, CLASS A

MOONLIGHT

AGNES LOCKHART HUGHES

A silvery bridge across the sea
The moon is making, dear, for thee ;
Where thou and I our tryst shall keep,
When all the world is wrapped in sleep.
So, fare thee well; and though we part,
'Tis not for aye,— ah, no! dear heart ;
For thou my guiding star shalt be,
To bring me back, my love, to thee.

When darkening waves of doubt arise,
And day's last ember fades and dies,
As yesternight, beyond the mist—
I'll seek the path the moon has kissed.
Then, o'er the bridge I'll come to thee,
Across the shimmering, moonlit sea;
And one lone star will watch above,
'Twixt thee and me, — my life, my love !

EDITORIAL DEPARTMENT

FOR THE NEW YEAR

HENRY VAN DYKE

These are the gifts I ask
Of thee, Spirit serene:
Strength for the daily task,
Courage to face the road,
Good cheer to help me bear the traveler's load,
And, for the hours of rest that come between,
An inward joy in all things heard and seen.
These are the things I prize
And hold of dearest worth:
Light of the sapphire skies,
Peace of the silent hills,
Shelter of woods and comfort of the grass,
Music of birds, murmur of little rills,
Shadow of clouds that swiftly pass,
And after showers the smell of flowers
And of the good brown earth,
And, best of all, along the way, friendship and mirth.

— *Selected.*

HAPPY NEW YEAR

WITH the dawn of the New Year come best wishes from a host of friends for a prosperous and happy New Year. It is comparatively easy to extend best wishes to be happy, but the problem that confronts most of us at this time is how best to be happy. It is safe to affirm that the first essential is not to expect too much. Blessed are they who do not expect, for they shall not be disappointed. So far as possible, without self-deception, see all the good you can in the world, and fear not evil, because it is something powerless and temporary, which will soon defeat itself. Some great writer has said: "One must not take this life too seriously. As soon as we live above it, much of it becomes unimportant, and if the essentials are secure, we must not care too much for the subordinate. Many of the best people suffer from this magnifying of trifles, and especially from their dependence on other people's opinions; and this lack of proportion makes for such people each day's work much more difficult than it would otherwise be."

One thing, at least, is certain. If you desire to advance and improve, it can never be done accidentally. It must begin in a distinct, resolved purpose to make a change for the better. We stand at the parting of the ways, on the threshold of a New Year. Be sure you take the right one, and as you go down the road, leave all enmities and strifes behind. Take up the new life volume for 1906 with hopeful hearts and scan its pages with joy. What does it contain for us? Let the poet answer.

> I bring you, friends, what the years have brought
> Since ever men toiled, aspired, or thought —
> Days for labor, and nights for rest;
> And I bring you Love, a heaven-born guest;
>
> Space to work in and work to do,
> And faith in that which is pure and true.
> Hold me in honor and greet me dear,
> And sooth, you'll find me a Happy New Year.

LET US HAVE BEAUTY NEXT

WHAT will the New Year bring to us of beauty and truth? this is the question that many in the photographic world are asking themselves to-day.

Beauty! We can recall many pictures, during the past year, in which beauty was well-nigh forgotten or overlooked, in the great straining after effect or in the vain endeavor to prove some wild theory with the photograph.

Truth! A contemporary writer has declared that John Keats muddled the minds of a great many people when he wrote, "Beauty is truth — truth beauty." The saying is true enough, but it has been wrongly understood by thousands of theorists who have interpreted it to mean, "Let us produce what looks to us like truth and then sandbag the world into declaring that it is beauty." But they have got the cart before the horse. They should have begun with beauty first, just as Keats did. If they had portrayed beauty, the world would soon have recognized the truth in their pictures. Now that impressionism has spent its force, let the next great movement in art stand for beauty. For after impressionism, romanticism, and symbolism, it is beauty's turn next. Let beauty be the watchword and rallying cry for all photographic workers during 1906. In the process of time, it will mean the complete transformation of the photographic art world.

IMPORTANT NOTICE

THIS thought is respectfully submitted as a common cause to the leaders of the Photo Secession and the American Federation of Photographic clubs. For between these two movements in the American Photographic world our desire has always been to hold the middle course. We have invariably sought to follow the injunction of St. Paul of "proving all things and holding fast to that which is good." We recognize much that is good, on both sides of this controversy, and of the sincerity and unselfishness of the leaders there can be no question. Holding these views, it has been our ambition, for some time, to find a common basis of agreement on which both could unite for the general good of photography. Our overtures have been listened to respectfully by the Photo Secession, they have been cordially received by the American Federation of Photographic Clubs. As to the final outcome, it is perhaps too soon to speak. But the justice of our cause leads us to hope for the best.

John Fiske always considered "compromise a great thing." "Truth is a point of view, — let us get together," he used to say. And so he worked to keep the old as a foundation for the new.

THE NEW PHOTO ERA

WE have been much interested recently, in reading in the *Publisher*, that Atlanta, Georgia, is in February, to have an opportunity to rejoice over the advent of a twenty-page pictorial weekly, the like of which the heavens have not before beamed on. Mr. Upshaw, who will be editor-in-chief, says the new paper will be fashioned somewhat after *Colliers' Weekly*, and will be a sort of composite of the *Youths' Companion*, the *Christian Index*, and the *Ram's Horn*.

"Piety in the Home; Power in the Life; Purity in the State," will be the new paper's motto.

"Put dynamite in her and she'll go, Bud. I want some of the stock," was the way Rev. Sam Jones greeted the suggestion, and he was among the first of the subscribers.

Being in the publishing business ourselves, we are looking for the Sam Jones of the photographic world. We want new subscribers to the PHOTO ERA, fifty thousand strong, if possible; and while we draw the line at dynamite, we can promise more enterprise, more ginger, and a bigger and better magazine than ever before. We shall aim to make the PHOTO ERA during 1906 a great clearing-house for photographic ideas. We have increased its size, doubled the text pages, strengthened the departments, and reduced the price nearly one half, all in the interest of the subscriber, old and new.

FRANKLIN BICENTENNIAL

ON Jan. 17, 1706, Benjamin Franklin, a printer and publisher, and one of the greatest philosophers and scientists of his day, was born in Boston. He attended the public schools of his native city until he was ten years old, when he left to go to work. At twelve years he was writing verses and essays which he printed himself. The old hand-press which he used for this purpose is still preserved in Boston. In 1723, when he was seventeen years old, he left Boston to begin life for himself, and went to Philadelphia, where he lived through the troublesome days of the Revolution and was one of the famous committee which framed the Declaration of Independence. He helped, too, to frame the Constitution of the United States. He secured the aid of France for the struggling colonies in their fight for freedom. When he passed away, on April 17, 1790, he was mourned by his fellow-countrymen and the world, who praised his great talents, his benevolence, and his patriotism.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the Photo Era.

"All summer in the fields and all winter in the study" may be a good motto for literary folk to follow, but we who juggle with the silver and the lens know that winter in the fields affords unusual opportunities for the pursuit of our pet avocation. Such "atmosphere" as one finds in a frosty morning, or in a misty, moisty evening; such interesting studies of lights and shadows when the sun is near its rising or its setting; such weird effects when the snow is driving and drifting across the land are only found when Winter is king. Each one of his capricious moods has in them something of charm, and though one may not be able to capture with his camera a replica of every particular phase, yet the pursuit is always exciting and stimulating.

Some amateurs lay aside their cameras when cold weather comes and betake themselves to their study, and thus lose much photographic pleasure. To induce the members of our Guild to make an effort to secure some excellent pictures of winter we are offering special prizes for "Winter Scenes."

Do you want to know where you can find a fine example to follow? It is in one of the numbers of *Art in Photography*, published this year by the Photo Era. The title of the picture is "Sale Temps," and is by L. Misonne, of Gilly. It shows a long road lined on either side by leafless trees, between the trunks of which may be seen a wide stretch of country. Along the road — which is covered with snow and slush — trudge three figures carrying umbrellas. The figures are not large enough to obtrude themselves on the sight to the exclusion of the rest of the picture, but seem an integral part of the landscape. Clouds hang low in the sky, but evidently there is a hint of sunshine somewhere, for the boles of the trees are reflected in the watery snow which lies in the road.

It is a most remarkable photographic study of winter, and yet it is a picture which any amateur is capable of making, but which, in truth, very few do make. Let every member of the Guild try his or her best to make one as good.

TANK DEVELOPMENT

A number of queries having reached the editor asking what is meant by tank development and the details of the process, the following hints are for their enlightenment. By tank development is meant placing the plates vertically in a tank or box with grooves, and filling the tank with weak developer, and leaving the plates for several hours to a very, very slow development. This method of development has its advantages, for plates may be placed at night in the tank and left until morning without further manipulation. They are then examined, and if development is completed, they are rinsed and placed in the hypo bath, then washed and dried.

A developer must be used which will both bring out detail and give density, and any good developer that contains these properties may be used, weakened to the right degree, which will be about twelve times the amount of water required for normal development.

Glycin is a developer that acts slowly, is stainless, and free from fog, so it is one of the best agents for tank development. Make up a stock solution 1¼ oz. of sulphite of soda crystals dissolved in 4 oz. of hot water. When cool add ½ oz. of glycin, and then 2½ oz. of carbonate of potassium, stirring the potassium in slowly until the mixture is smooth and creamy. For tank development take 2 oz. of this solution and 90 oz. of water. Plates may be left in the solution for twelve or fifteen hours. If any are found not fully developed, they may be immersed for a moment or two in normal developer, using $\frac{1}{2}$ oz. of stock with 6 or 8 oz. of water.

Ortol is another good agent for tank development. Ortol, 45 grains; potassium metabisulphite, 22 grains; sulphite of soda crystals, 300 grains; carbonate of soda crystals, 300 grains; bromide of potassium, 8 grains; water, 75 oz.

There seems to be little danger of over-development, and plates have been left in the tank for twenty-four hours and at the end of that time found to be developed into fine negatives.

The English call tank development "stand" development.

NIGHT PHOTOGRAPHY

Autumn and winter are the best seasons of the year for making nocturnal views, especially in city streets lighted by gas and electricity. Late in the fall there are, as a rule, so many wet days when the snow has not come to stay but falls in small quantities and quickly melts, leaving only patches here and there; just enough to make good high lights in a picture. Later, after the snow has come for the winter, nocturnal views take on an added interest because of the varied forms which tracks and shadows assume on their background of white. Of course, one must be willing to endure a little discomfort in the making of scenes of the "night side of nature," but if one is properly equipped with apparatus in quick working order, it is not so bad after all to prowl about on a wet or frosty night. On rainy nights, or nights following rainy days, when pavements are wet, they reflect the lights and give striking effects in lights and shadows; while on frosty nights one obtains a peculiar atmospheric effect in the picture not obtainable under any other conditions. An ice storm with trees and shrubs coated with ice offers unusual possibilities in the way of picture making.

One must use a tripod, for there is no opportunity for snap-shots, and it will be found the wiser plan to use a light tripod and to open it and attach it to the

G. EDWIN KELLER FIRST PRIZE

camera before starting out. A stout string attached to one of the legs of the tripod will be useful in confining the tripod when carrying one's apparatus from point to point.

Instead of carrying the plate-holders in the camera, a double bag, made after the fashion of a saddle bag, is more convenient. One end of this bag should be of white cloth and the other of black, and connected by a stout piece of webbing. They are easily carried over the shoulder. The white bag is for the unused plates, and the black bag for the plate-holders after the plates have been exposed. One thus avoids the mistake of making two pictures on one plate. A small bull's-eye lantern, a box of Vestas, or a little electric candle will be necessary, for there are times when one needs a light for adjusting his camera, especially when focusing. A hand camera is to be preferred to a view camera, and the focusing is done by the focusing scale, it being almost impossible to get a clear focus on the glass, owing to the slight illumination of the subject.

Non-halation are perhaps to be preferred to ordinary plates, especially if one wishes to bring brightly lighted windows or other lights within the field of the lens, but for most occasions the ordinary plate will give as good results. If non-halation plates are used, the time of exposure must be doubled.

G. EDWIN KELLER THIRD PRIZE

The time of exposure varies from one to ten minutes according to the intensity of the light. With electricity the exposure is much shortened, from one to two minutes being quite sufficient. The exposure may be prolonged for five minutes without much danger of exposure, and there are times when one may make a snap-shot and get excellent results, but in the latter case the lights must be very bright and snow on the ground, otherwise one would have only faint streaks of light, without form, for his pains.

Nocturnal pictures seldom show any signs of life, the reason being that

ROBERT E. WEEKS SECOND PRIZE

the light is so dim that objects passing across the field of the lens during the exposure leave no impression on the plate. Sometimes it happens that cabs or carriages standing at the curb are in the scene, and though the horses move more or less, the movement will not be perceptible in the negative, for of course there is little or no detail to betray the effect of movement.

Development should be prolonged until the high lights are quite dense, for one wishes contrast in a night picture, and this cannot be obtained with a thin negative.

The prints should of course be made in black and white, smooth platinotype being best for some negatives and the rough paper for others.

Nocturnal photography is most fascinating, and its followers are unmindful of the small discomforts which attend its pursuit, being persuaded that the results obtained are ample remuneration for their night prowls with a camera.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00.

Second prize: Value $5.00.

Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts, or other photographic materials advertised by us; or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in The Round Robin Guild, with all its benefits, — among which the correspondence privilege probably stands first, — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is limited to subscribers to Photo Era.

SUBJECTS FOR COMPETITION

December. — "Decorative Pictures." Closes January 31. By decorative pictures in this particular competition is meant pictures which readily lend themselves to decorative effect in magazine making, as opposed to those of only an illustrative nature. Headings of pages or departments, the decorating of whole pages and "contents" page designs are desired. "Cover Designs" will be reserved for a special competition later. Decorative pictures need not of necessity be either landscapes or waterscapes, although good examples of their use may be found in the April, November, and December issues. Flower studies after the style so successfully made by Miss Carine Cadby, of England, are especially pleasing. In fact there are photographs in almost every class of work, especially if they happen to be of a sketchy character, which could be used. We hope therefore that our readers will take especial interest in this competition and look through their negatives for attractive material.

January. — "Winter Views." Closes February.

February. — "Reflections." Closes March 31.

March. — "Trades." Pictures entered in this competition should be illustrative of the various employments, such as blacksmithing, shoemaking, tailoring, and the like. Closes April 30.

April. — "Portraiture." Closes May 31.

May. — "Mother and Child Pictures." Closes June 30.

June. — "Garden Scenes." Closes July 31.

FOREGROUND STUDY — AWARDS

First prize: G. Edwin Keller.

Second prize: Robert E. Weeks.

Third prize: G. Edwin Keller.

Fourth prize: John W. Schuler.

Honorable mention: William Spanton, Fred Wright, Mrs. William F. Jinks, Karl Kaffenberger.

ANSWERS TO CORRESPONDENTS

Bertha B.—An article on intensifying negatives will be found in the February, 1903, number of the Photo Era. The blue-print formula has been forwarded.

Chas. D. F. — If you have so much trouble with flash-light powders, why not try the flash-light sheets? They burn more slowly, make softer high lights, and give more detail in the shadows. They are not so dangerous to handle as the powders. Use a gas lighter, and touch one corner of the sheet with the flame.

H. R. Winter. — In choosing a camera, one is governed by the kind of work one wishes to do. For good all-around work a 4 x 5 will be the most sensible size. One can have enlargements made from the small negatives, in case one would like the picture in larger size. The larger the size of plate used, the more expensive become the materials for work. I have just seen some beautiful enlargements made by an amateur, from negatives 3 x 3, in which detail was fine, and the pictures themselves very artistic.

Shirley S. — Evidently your pyro developer is too alkaline, and if so, that would cause the chemical fog. Add a little more citric acid to the bath, and I think you will find it will work all right. Perhaps you have an excess of sulphite of soda, the reason the bath is too alkaline.

Jane R. — No; you need not be afraid of overexposing in a night picture, provided no strong electric light comes within the field of the lens. Your spoiled negatives can be cleared from the silver and re-sensitized in blue-print solution, and made into blue transparencies. Formulas have been given in the Photo Era, and if you have not the back numbers, a copy containing the article will be mailed you on receipt of fifteen cents. A formula will be found in the Photo Era for July, 1902.

Sarah L. Leither. — See answer to Harlow H., next column. So many prints are received at this office that unless properly mounted and marked they stand a chance of being lost. Great care is taken of all pictures received, but in case of unmarked and unmounted prints they sometimes go astray.

David Fenton. — The discoloration or stain on your Velox prints may be removed by placing them in a solution of sulphuric acid, ½ oz.; chrome alum, 1 oz.; water, 10 ozs. Wash well afterwards.

C. K. Hexom. — The film which you enclose looks as if it had been light-struck along the edges. I note that you say the edge is held in place by strips of tin. Is the tin black? If not, possibly that would account for the streaks which certainly indicate that the film has been exposed to light in some manner. Please write in regard to tin edging.

Anna Deane.—I would advise you to return balance of box of plates to the makers. The pinholes which you find so uniformly on each plate are doubtless due to dust settling in the film when drying. In returning plates explain that plates have not been exposed to dust by you, but were taken directly from box and placed in camera. They will send you another box of plates in place of the poor ones.

Harlow H. — In sending prints to the competition of the Guild all prints should be mounted and the name and address of sender written on each card mount. This is the only way to insure safe delivery and return of prints.

M. G. Norton. — Your pictures sent in competition for Water Craft were very meritorious, and honorable mention was marked on the list containing your name, but by an oversight a number of names were left off the list that should have received this commendation. Please try again in another competition. Perhaps you can send us something in the "Snow Scenes" competition announced in this number.

S. D. Ferris. — You can use water-color lamp-black, rather thick, for staining the places in the inside of your camera which have become worn or scratched. The color sinks into the wood and does not rub off. This is the simplest method; but if you prefer, you can buy a little lusterless black paint designed especially for use in cameras.

V. L. T. — Exchanges are printed in this department free of charge. If you have any photographic apparatus or pictures which you would like to dispose of, you may have a notice of same printed once in the Round Robin Guild department gratis. A second insertion would demand a small fee.

The Crucible

FORMOSULPHITE

Of late photographic chemists, among whom the Messrs. Lumiere stand well to the fore, have been experimenting extensively with formosulphite, which will be hailed as a valuable discovery when its virtues become more generally known. The preparation takes the form of a fine white powder, readily soluble in water and unalterable either in powder or in solution, which is not the case with sodium sulphite or some of the alkalies. As it takes the place of both the preservative and the alkali and is also very economical, its use simplifies the compounding of the developer very materially, as the following pyro formula will show:—

A

Pyro	$\frac{1}{2}$ ounce
Oxalic acid	8 grains
Water	15 ounces

B

Formosulphite	2 ounces
Water	15 "

For use, take an ounce of A, an ounce of B, and from one to two ounces of water.

Development of under or over exposures may be regulated with potassium bromide, or by varying the amount of formosulphite. Increase the quantity for underexposures and decrease it for overexposures.

BROWN TONES ON VELOX

Excellent brown tones may be secured on Velox paper by the use of the developer given below. A, Pyro, 30 gr.; potassium metabisulphite, 30 gr.; ammonium bromide, 30 gr.; water, 10 oz. B, Ammonia (.880), 75 minims; water, 10 oz. A, $\frac{1}{2}$ oz.; B, $\frac{1}{2}$ oz.; water, 1 oz.; adding more of A and B as time goes on. This developer is not rapid in its action and the print should be shielded from direct gaslight, or better, develop under the light through an orange glass.

HYDROGEN PEROXIDE FOR ELIMINATING HYPO

Much has been written recently regarding hypo eliminators, but too much dependence upon any chemical eradicator of the fixing bath is not advisable. Thorough fixation is the key to the difficulty. If the plate is not thoroughly fixed, the silver compounds in the emulsion are insoluble and cannot be removed by the most prolonged washing. On the other hand, should a negative be allowed to remain in the hypo bath as long again as the image requires to clear, little fear need be entertained that any hypo or unstable silver compounds will remain after a good washing in running water. Water is the best eliminator after all, especially when one considers that the absolute removal of every trace of hypo is not of so great importance unless some form of after treatment is to be employed. If this is the case, the use of hydrogen peroxide gives a pleasant feeling of immunity from stains which might follow mercuric intensification and similar processes. The negative to be treated should be immersed for several minutes in a solution containing 1 oz. of hydrogen peroxide to 40 oz. of water, after which it should be washed thoroughly in running water.

VIEWS OF WATERFALLS

Many amateur photographers find it very difficult to make pleasing pictures of waterfalls, because the water is light and the banks usually very dark. Such extremes of contrast cannot be satisfactorily rendered on one plate. The water is sure to be overexposed, the banks underexposed, or else both will suffer a little. By far the best plan is to use two plates, one for the water and another for the banks. With each negative correctly timed the view may be double-printed as described in No. 17 of *The Practical Photographer* mentioned in the advertising pages.

EXPOSURE AND DEVELOPMENT

The following suggestions from *The Australian Photographic Journal*, describing the results of exposure and development, seem to embody the whole matter in a nutshell, and should prove of interest to the amateur photographer, helping him to determine the cause of faulty negatives and remedy them in future work, or by after treatment.

Underexposure. *With Short Development.* — Much of the negative is devoid of any image, only the brighter parts of the subject have produced any image at all and that is thin. There is no fine detail. The image on printing is, at first, hard and lacking in detail, but the whole print fogs over very soon.

With Moderate Development. — Similar to the first but a little more detail is apparent and the brighter parts of the subject (the high lights) are denser. It is hard in contrasts on printing.

With Prolonged Development. — Still no fine details, and the high lights very dense. Excessively hard and unpicturesque in printing. May usually be improved a little by reduction with ammonium persulphate.

Correct Exposure. *With Short Development.* — Not quite enough detail in the deep shadows. The negative as a whole is not rich enough in contrasts and density, and gives poor flat prints unless a very brilliant printing paper is used. Improved by intensification.

With Correct Development. — The result is the most faithful reproduction of the subject that can be got, and with a subject rich in variety of tone and lighting, should be full of very fine detail in the deepest shadows, and should range from practically clear glass through all degrees up to the maximum density that is of use in printing.

With Overdevelopment. — Although the image is present in full detail in all parts, the shadows, the half-tones, and the high lights are all unnecessarily dense, the negative takes a long time to print, and is too steep in gradation, so that in the print either the detail in the high lights does not appear, or the shadows are blocked up. Reduction will improve such a negative.

Overexposure. *With Short Development.* — The negative is full of detail, but very thin and flat, and may be confused with an underexposed, underdeveloped negative, if the latter has been veiled all over in any way. Careful examination of the detail in the shadows will, however, enable them to be distinguished. This type of negative can be much improved by intensification with mercury but an underexposed one is made very hard, as a rule. The uranium intensifier gives the best results with underexposed flat negatives, as it does not increase the contrasts so much as other intensifiers.

With Moderate Development. — Is more dense generally than the preceding, but is still very flat and muddy-looking. It may sometimes be improved by first reducing and intensifying afterwards.

With Prolonged Development. — Is very dense all over, even in the shadows. It may give a passable print, but is very slow. Reduction is the best treatment for such a negative.

No after treatment of a bad negative can give anything approaching the result obtained by correct exposure and development.

SCRATCHED NEGATIVES

Scratches on the glass side of a negative are often troublesome if printing papers of fine grain are used, and the usual method is to fill the scratch with Canada balsam or apply it all over the negative and cement an unscratched glass to it. The latter method is perhaps better, but a satisfactory result may be obtained much more easily. Place an unscratched glass upon the glass side of the negative, with a few drops of glycerine between them, and fasten the two glasses together with passe-partout binding. The scratches will disappear and, if desirable, the plates may be separated after the printing has been finished, the glycerine washed off by immersing the whole negative in water and standing up to dry again. Use as little glycerine as possible, and avoid air-bubbles.

PRINTS FROM WET NEGATIVES

In newspaper and other commercial work it is often necessary to make a print from a negative before it has had an opportunity to dry. A piece of thin transparent celluloid, such as is used for making roll films, makes an easy matter of the operation. After the negative has been washed and drained for a moment, dry the glass side with a towel and put it into a printing frame a size larger than itself, which has been furnished with a glass front such as would be used for printing from films. Now lay upon the wet film a piece of transparent celluloid the size of the printing frame, and upon this dry surface the printing paper. The back of the frame may now be put on and the print made. If the celluloid is removed immediately after the print has been finished and the negative is rinsed in water, it can be stood up to dry undamaged.

GREEN TONES ON BROMIDE PAPERS

A very simple process for toning bromides green has recently been reported by Lumiere and Seyewitz. The first solution is as follows: —

Water	1000 parts
Potassium ferricyanide	60 “
Lead nitrate	40 “

When the print has completely whitened in this solution, it should be well washed and immersed in the following: —

Water	1000 parts
Cobalt chloride	100 “
Hydrochloric acid	300 “

After about two minutes the image will have become green throughout, and thorough washing to remove all traces of free acid completes the treatment.

SODIUM SULHPITE FOR FIXING

Sulphite of soda can be used instead of hypo for fixing. The strength of the bath should be four ounces of the crystals to a pint of water. It is, however, much slower and more expensive than hypo, but if the fixing bath happens to be exhausted, and no hypo is at hand, this knowledge may prove useful.

STAINS ON P. O. P.

Brown stains on the clear portions of P. O. P. prints after toning and fixing are a frequent source of trouble with some workers. This may be due to iron in the wash water or other causes. Whatever the cause, however, these stains can usually be removed by careful manipulation. Soak a piece of absorbent cotton in ammonia (1 part ammonia, .880 to 3 parts water), and rub the stain gently until it is removed. It is best to do this when the print is dry, and care must be used not to injure the film. If prints have become stained through long keeping, this method may improve them.

REMOVAL OF PYRO STAIN

Many workers prefer pyro to all other developers, but dislike the stain it sometimes gives. A simple and effective formula for the removal of this stain immediately after fixing is as follows: —

Alum	½ ounce
Citric acid	½ “
(or sulphuric acid)	1 dram
Sulphate of iron	1½ ounces
Water	10 “

YELLOW PRINTS

If the whites of bromides or gaslight papers are found to be yellowed after complete fixing and washing, the print will be benefited by immersion in a strong solution of tartaric acid for an hour or more, after which it should be thoroughly washed in running water.

COINS FOR WEIGHTS

Grain or gram weights are not always at hand in the dark room of the average amateur photographer, and as strict accuracy is not essential in most photographic processes, coins may often be used. Their weights are here given approximately, and will be found near enough for ordinary purposes.

Dime	2.5 grams	40 grains
Cent	3.1 “	50 “
Nickel	5 “	80 “
Quarter dollar	6.25 “	100 “
Half dollar	12.5 “	200 “
Dollar	26.7 “	400 “

SECOND AMERICAN SALON

THE pictures composing the Second American Salon will be exhibited in several of the large cities of the United States this year, the same as last. The route list is as follows: —

Providence Camera Club, Providence, R. I., Dec. 27, '05 to Jan. 6, '06.

Pittsburgh Academy of Science and Art (Photographic Section), Pittsburgh, Pa., Jan. 12, '06 to Jan. 31, '06.

Capital Camera Club, Washington, D.C., Feb. 5, '06 to Feb. 20, '06.

Chicago Camera Club, Chicago, Ill., March 1st to March 22d, '06.

Minneapolis Camera Club, Minneapolis, Minn., March 29 to April 14, '06.

Metropolitan Camera Club, New York, N. Y., April 18 to May 2, '06.

Boston Camera Club, Boston, Mass., May 7 to May 19, '06.

Many readers of PHOTO ERA may be interested to know the names of those whose work was admitted for the Salon and the number of prints accepted from each exhibitor. We therefore publish the list in full.

UNITED STATES

1	Barr, Chas. E.
8	Bell, Curtis
4	Benedict, Dr. A. R.
3	Berger, Hy., Jr.
5	Bingham, Katherine
1	Bodine and Lewis, Misses
2	Boger, W. A.
1	Bonfoey, A. D.
3	Brodhun, Will D.
2	Brookins, D. H.
1	Brooks, Clarence G.
4	Brown, Miss F. E. D.
3	Bruce, R. D.
7	Burnett, Vivian
1	Buschemeyer, W. G.
1	Canuteson, John
1	Chaffee, A. D.
2	Chislett, John
1	Clarke, C. F.
3	Cline, Winfield S.
1	Colman, Mrs. F. M.
3	Corthell, Wendell G.
2	Dassonville, W. E.
2	Davis, Chas. W.
1	Davis, Dwight A.
7	Eickemeyer, R., Jr.
2	Elmberger, G. C.
1	Engel, A. W.
7	Field, J. H.
1	Fischer, Fred
8	Fleckenstein, Louis
2	Furness, Dr. W. J.
2	Gatch, Helen P.
4	Gates, Solon L.
1	Gay, Geo. Howell
1	Gilbert, Homer W.
4	Hanscom, Adelaide
1	Hasson, John D.
5	Hendrickson, H.
2	Holden, Samuel
3	Holm, Sara
5	Holmes, G. L.
1	Horlin, Gust.
2	Hutchinson, E. R.
2	Judson, O. B.
1	Kaufman, R. S.
1	Kennedy, Homer
3	Knox, Wm. T.
3	Lamb, Louis Albert
3	Martin, Samuel A.
1	Martindale, Thos. C.
2	Maurer, Oscar
1	Meyer, Alfred J.
1	Minns, H. W.
1	Morrison, Paul R.
1	Oesting, Paul
7	Parrish, Misses W. and G.
1	Pearce, Mrs. W. W.
2	Peterson, J. R.
4	Phillips, Wm. H.
1	Polasek, Edw.
1	Potter, C. Fred'k
2	Power, Geo. T.
5	Prall, Virginia M.
2	Pratt, Frederick H.
1	Redfield, Hy. S.
3	Robison, Hana
3	Rodgers, C. M.
1	Rosenberger, J. L.
1	Scheer, Dr. G. H.
2	Schuler, John W.
2	Shaw, Walden W.
1	Skolfield, S. S.
2	Sleeth, R. L., Jr.
3	Sweet Brothers
2	Swenson, Gust. F.
8	Townsend, C. E.
2	Tracy, Margaret L. and Edith H.
3	Underhill, Jas. E.
1	Walbridge, H. F.
1	White, W. McG.
3	Wilhelmy, Dr. A.
1	Willard, Mrs. Eleanor
4	Zerbe, Wm. H.

ENGLAND

7	Barton, Mrs. G. A.
1	Bennett, Lionel C.
1	Bennett, Hy. W.
2	Blake, A. H.
5	Campion, Rev. H. C.
3	Clayden, Wm.
1	Cheyne, Tulloch
2	Croft, J. Page
2	Taylor, E. D.
6	Grindrod, Chas. F.
5	Hensler, W. A. I.
4	Hoppe, E. O.
2	Kimber, S. G.
2	King, C. J.
1	Lane, W. Harold
5	Lee, G. Edgar
1	Lloyd, Lewis
2	Lodge, R. B.
3	Marriage, Ernest
2	Mummery, I. C. S.
2	Nitsdale, W. H.
7	Marian Silverston

ITALY

5	Becutti, Umberto
2	Berta, E.
1	Cambiaso, M. M.
1	Carlo, Sciutto
7	Castruccio, Giuseppe
2	Cavadini, Luigi
4	Garrone, Edwardo
9	Ornano, Alfredo
9	Rey, Guido
6	Gloeden, V. von

GERMANY

3	Grienwaldt, L. O.

ARGENTINE REPUBLIC

2	Cardini, Eugenio A.

INDIA

1	Joshi, P. S.

HOLLAND

3	Kaufmann, M., Jr.

CAPE TOWN

3	Keene, Mrs. Caleb

AUSTRIA

2	Ledenig, Adolph

IRELAND

1	McLean, Wm.

AUSTRIA

1	Mayer, Theodore

SPAIN

3	Poquet, José

MEXICO

2	Ravelle, H.

MR. E. J. CURTIS exhibited recently in the Arts Club, 37 West Thirty-fourth St., New York City, a complete set of his remarkable photographs of the American Indian. The pictures, numbering about two hundred, comprised portraits, groups and various phases of the life of the dying race, in which it is apparent that the original American possesses human qualities that deserve our utmost sympathy. What a sad commentary on the neglect, indifference, nay brutal treatment of the noble red men on the part of the white invaders! Mr. Curtis has succeeded not only in acquainting us with the dominatingly superior aspect of our "red-skinned" wards, but has infused into these admirable pictures his own personality, so that the results have a strong and distinct artistic value. This admirable work of Mr. Curtis was most worthily treated in an issue of *Scribner's Monthly* last summer and excited unusual attention. We understand that this interesting and valuable collection of Indian photographs will be shown in the art gallery of the St. Botolph Club, Boston, Massachusetts, during February or March.

Henry H. Hyatt, president and treasurer of the H. A. Hyatt Supply Company, died suddenly at the Union Station, St. Louis, Tuesday morning, November 28, from acute indigestion. For many years Mr. Hyatt has been a central figure in the photographic supply trade of the Southwest, and through general advertising and his own house journal, *The Photo-Mirror*, was well known and highly respected throughout the country. He was a man whose loss will be deplored by a host of friends and acquaintances and the Photo Era joins them in extending condolences to Mrs. Hyatt, her two sons, Harry H. and Edward K. Hyatt, and her daughter, Mrs. McGeary.

The tenth annual convention of the Photographers' Association of Wisconsin will be held April 24, 25 and 26 in the Masonic Temple building, which furnishes excellent convention halls. The St. Charles Hotel will be the official headquarters.

Mr. Burt A. Rice offers a beautiful trophy to be competed for by the members of the Association; but in order to encourage the photographers from outside of Milwaukee to enter for this trophy, he specified that Milwaukee members shall not be permitted to compete in this class. Pictures entered in this class may be any size, and any kind of material may be used. Full details and conditions will be published in the annual program.

Mr. A. Werner offers a very handsome bronze vase, the competition for which will be open to all members of the Association, in good standing for 1906. Full information regarding the conditions will be published in the annual program, or will be furnished to intending competitors who inquire of the Secretary, before the program is published.

The Association will offer four gold badges, as follows: —

Class "A," Heads. (Bust Portraits.) Six Pictures.

First award, A Gold Badge, valued at $15.00.

Second award, A Gold Badge, valued at $10.00.

Class "B," Full figures, Three quarter figures and Groups. Six Pictures.

First award, A Gold Badge, valued at $15.00.

Second award, A Gold Badge, valued at $10.00.

Officers of the Association will not enter in Class "A" or "B."

Competition is permitted in one of these two classes only; but competitors are not barred from entering in the trophy classes (except in the competition for the "B. A. Rice Trophy," Milwaukee members will not enter).

Pictures from the same negative may not be entered in more than one class.

All competitors must be members of the Association, and in good standing for 1906.

All pictures must be from negatives taken since May, 1905, and if framed, should be without glass.

Pictures entered for competition must have no name on the front of either pictures or frames; but should be marked on the back, for identification and return to the owner.

It is very important that all exhibitors should notify the Secretary, at least ten days before the opening of the convention, stating the number of exhibits they wish to enter, also the Classes, and about how many square feet of wall space their exhibits will require. This is very important, as the committee will wish to know how much wall space to prepare for all exhibits.

All exhibits should be addressed to "J. M. Bandtel, Sec'y P. A. of W., Milwaukee, Wis.," and must be in the hands of the Exhibits Committee by April 21st at 5 P.M., sure, as all exhibits must be unpacked and hung before the opening of the convention.

THE Photographers' Association of Pennsylvania will hold its tenth annual convention in Carrol Institute, Washington, D. C., May 1, 2, 3, 1906.

The prizes offered by the Association are worthy of notice, especially the following, which is a special prize to photographers outside the Association: —

The Association will offer a beautiful silver loving cup for the three best portraits, any size. Must be made since April, 1905. An entrance fee of $2.00 will be required.

General exhibit open to the world. This exhibit is for study, to give the owner an opportunity to compare his productions with the work of his fellow-craftsmen. It will be strictly educational, but subject to the following conditions of entry: Six portraits, any size, framed or unframed, but must be made from negatives taken since April, 1905.

Grand salon, to be composed of all pictures in the general exhibit receiving a marking of sixty points out of a possible one hundred. A beautiful certificate, signed by the judges and specifying the markings received, will be awarded to each exhibitor.

The Slater Trophy. — A special prize, third contest. Mr. W. F. Slater, of Philadelphia, offers as a special prize an elaborate silver loving cup, gold lined, ten inches high.

This trophy will be awarded to any member of the Association who shall exhibit the six best portraits printed on American aristo-platino paper from negatives made since April, 1905. Prints to be not smaller than nine (9) inches one way. Pictures to be framed without glass.

No name to appear on the front of the exhibit. These pictures are to be judged on their artistic merits.

This trophy will be awarded under the following conditions: The winner shall hold the cup for one year, and shall compete for it again at every succeeding convention until he has won it a third time, when he shall become the permanent owner.

A winner failing to enter every competition until he has won the cup a third time will forfeit his previous winning, but may begin again and continue the competition until he has won the cup three times.

In entering exhibits for this trophy, please specify for "Slater Trophy." Further particulars regarding this trophy may be had from the secretary.

BUCHANAN FLASHLIGHT CONTEST

OPEN to all Photographers in the United States, Canada and Mexico.

Mr. W. P. Buchanan, Manufacturer, Importer and Exporter of Photographic Supplies, of Philadelphia, offers two prizes for Flashlight Pictures made with Luxo. First prize, a gold medal; second prize, a silver medal.

Winning pictures to become his property, and must not be less than seven inches. No name to appear on picture.

Entering exhibits for this contest please specify "Buchanan Luxo Prize."

MORRISON GOLD PRIZE

OPEN to members of Photographers' Association of Pennsylvania.

Morrison Photographic Supply and Manufacturing Company, of Pittsburg, Pa., offers $25.00 in gold for the three best portraits, to be not less than thirteen inches one way.

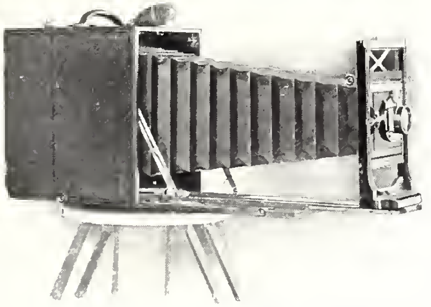
No name to appear on pictures and may be framed or unframed to suit the exhibitor.

In entering exhibits for this prize please specify "Morrison Prize."

The official headquarters will be the Raleigh Hotel. The Lincoln is a family hotel (American plan), but one block from Convention Hall, and will be used by a great many who will bring their families.

For further information, apply to the Secretary, E. E. Seavy, New Castle, Pa.

THE Cirkut, a new camera that is likely to revolutionize the taking of panoramic and cycloramic photographs, is now being sold by the Century Camera Company of Rochester, N. Y. It is made to carry the cartridge system of daylight-loading film. When in operation the film unwinds past a slot on a roller turned by clock work. The camera is revolved about an axis by the same mechanism, and in so doing exposes the film in a most perfect manner.



A number of the special features of the Cirkut are worthy of individual mention. Films of various widths may be used, as well as lenses of different focal lengths, while the angle of view is unlimited in its scope — even the full circle of 360° can be included. Although the camera is capable of making views up to 12½ feet, in length, it measures when closed only 9 x 12 x 12 inches.

THE Low Shutter No. 6, advertised elsewhere in these pages by the Kalamazoo Shutter Co., at once commends itself to every photographer who desires a simple and accurate instrument which is silent and easy in action. The fact that over 35,000 Low shutters are now in use is sufficient guarantee of their superlative excellence.

NORTHERN TRAILS — SOME STUDIES OF ANIMAL LIFE IN THE FAR NORTH. William J. Long. Copiously illustrated by Charles Copeland, Boston, U. S. A. and London, Ginn & Company. Cloth, price, $1.50.

He who sits for hours watching the curious antics of an animal, be it domestic or wild, is seldom, if ever, conscious of the motive of the creature. If the observer, by chance, has the satisfaction to see the beaver at work, exercising the constructive skill of a human mechanic; or the salmon in flashes of marvelous ingenuity trying to free himself of the deadly barb, he must yield to the conviction that these dumb creatures are endowed with something more than what is commonly known as instinct. The bulky volumes on natural history are barren of the knowledge we would seek on this interesting subject. Specialists who have won fame and fortune by pretending to initiate us into this mysterious phase of animal life, have not satisfied our craving, but have merely whetted our appetite for a fuller and complete revelation. The source? The illuminating message came as suddenly as it was welcome and William J. Long presents to mankind the benefits of his extraordinary faculty of observation — novel, accurate, sympathetic. Fallacies and delusions of the habits of certain animals, supported by other writers — hitherto recognized authorities — were punctured by the score, and the service Mr. Long has thus rendered science alone can scarcely be overestimated. From the view-point of pure enjoyment, the sympathetic, glowing and fascinating pages of Mr. Long are matchless among works of this character. In "Northern Trails" he tells with simple and touching realism the story of Wayeesis, the white wolf; of Pekquam, the fisher; of Kopseep, the salmon; of Waptonk, the wild goose; and of Matwock, the polar bear. In Charles Copeland the author has a wonderfully faithful and sympathetic interpreter, whose deft and accurate pencil depicts the various creatures amid conditions that demonstrate the rare perceptive powers of the artist, who must have braved many dangers and difficulties in the attainment of his object. To these distinctly artistic and superbly executed illustrations the volume owes much of its charm.

Among French Inns. Charles Gibson. Boston, L. C. Page & Co. $1.60 net.

It has been truly said that the only way to see a foreign land rightly is to travel by easy stages and stop at the second and third rate inns. This book proves the truth of this assertion. The author is enthusiastic, and calls his trip a poetical one with a practical side. The French inns, as a rule, in the rural districts, are more primitive than in England, and they are never without good cheer in the way of food and drink. And while he admits that the English inn has its good points, he sturdily maintains that in the cuisine of the Frenchman there is a subtle art which nothing can take from him. To all of which we heartily say "Amen." The illustrations here are reproduced from photographs taken by Mr. Charles H. Paine, which are exceptionally fine examples of what good photographs should be.

An International Exhibition of Photo-engraving and the allied processes has been organized to celebrate the tenth anniversary of the foundation of the Brussels Society for Typographical Studies, and as it is placed under the high patronage of the Belgian Government, it promises to be eminently successful. The exhibition will open in February and entries from America are desired in order that our immense progresses in the art of photo-engraving may be compared with those of Europe. It is obvious that much benefit would accrue to exhibitors on both sides of the Atlantic from such a comparison. Full particulars may be obtained by application to the secretary, Jean Van Overstraeten, 8 Rue Joseph Stevens, Brussels.

A new association which promises to become an important factor in photographic circles was recently organized at Denver, Colo., and will be known as the Colorado and Wyoming Photographers' Association. A committee has been appointed to draft a set of by-laws, and officers have been elected as follows: President, William Rundle, Denver; vice-president, P. E. Brooks, Denver; secretary, F. E. Post, Denver; treasurer, Chas. Nast, Denver; board of trustees, E. E. Wallace, Greeley; G. W. Stieglman, Pueblo; A. E. Caswell, Cripple Creek, and Joseph Schmitz, Cheyenne, Wyo.

The Photo Era extends its best wishes to this new organization, with the hope that it may live long and prosper.

The fourth annual exhibition of the Rochester Camera Club opened November 21 at the club rooms in Wilder Arcade, Rochester, N. Y. The exhibition as a whole showed a distinct advancement over all previous efforts of the club and speaks well for Rochester, which is so widely known as a photographic center. Among the principal exhibitors were S. V. Fitzsimmons, L. F. Kolb, Frank D. Mundy, Ralph S. Paddock, Miss Miriam B. Penfield, William H. Schaffer, H. C. Spurr, Dr. Louis A. Weigel, Edward W. Keck, Quentin W. Booth, H. C. Goodwin, Louis Lowenthal, A. S. Osborn, Irwin Taylor, Fred. W. Brehm, John B. Wollensak, and Charles C. Zoller. In addition to the regular exhibition Dudley Hoyt exhibited his series of portraits which won the grand prize at the national exhibition in Boston last year.

PHOTOGRAMS FOR 1905. Dawbarn & Ward, Ltd., London. Tennant & Ward, New York. Cloth, $1.50.

Not since the appearance of the initial volume, published in 1895, has the contents of this favorite annual been so attractive as the present issue. It is not only remarkable that the illustrations represent the leading pictorialists of the Old World and the New, but the work of each of them is most worthily exemplified. Rarely have we seen embodied in one volume so large a number of interesting and attractive pictures. The authors, with exceptional discretion, intelligence, and taste have undertaken the stupendous task of bringing together examples of every school and of every clime, and most admirably have they succeeded. It is an achievement worthy their well-known skill and energy, and it is with sincere pleasure that we make this acknowledgment. To every person, interested to note the sure and substantial progress of photography as a pictorial art during the year just closed, *Photograms for* 1905 presents an exceptional opportunity; for in addition to the 150 or more admirably executed half-tone illustrations are articles of pronounced photographic value by Robert Demachy, Fritz Loescher, J. C. Stochholm, H. Mortimer Lamb, M. Mendez Leon, and A. C. R. Carter. The last-named writer treats intelligently and exhaustively the work of two great exhibitions, — The Salon and The Royal. A fair and impartial critic this, no ax to grind and no chip on his shoulder, and broad enough to bestow praise where it is merited, regardless of nationality. Thus the Americans fare very generously at his hands; indeed, it is hard to believe that Mr. Carter treads the same heath as does the acrimonious, implacable Mr. Hinton, so liberal, fair-minded, and just is he. The pictorialists this side of the Atlantic have, therefore, a rare treat in store for them. Persons who take little or no interest in photography and who, nevertheless, are fond of pictures of decidedly artistic merit, will linger long on the beautifully embellished pages of *Photograms*, which, in all truth, is wonderfully well constructed and printed throughout.

IT has been our pleasure within a few days to give the Aristo Gold Post-card a thorough trial, and we frankly admit that this new product marks an epoch in the history of the picture post-card. For simplicity of manipulation it stands preeminent among other cards now on the market; in fact, a child of ordinary intelligence can easily secure exquisite results. It is only by seeing the beautiful brown and purple tones so readily obtained that one can fully realize and appreciate the merit and intrinsic value of this new process; and every reader of the PHOTO ERA should improve the opportunity, so generously afforded by the manufacturers, to test a sample package of these cards. We predict a great future for the Aristo Gold Post-card, and congratulate the American Aristotype Co. upon being the manufacturers of a novelty so worthy of the place it holds in popular favor.

THE BRITISH JOURNAL PHOTOGRAPHIC ALMANAC AND PHOTOGRAPHERS' DAILY COMPANION FOR 1906. Edited by George E. Brown, F. I. C. Ross, Ltd., 111 New Bond St., London. G. Gennert, 24 East 13th St., New York.

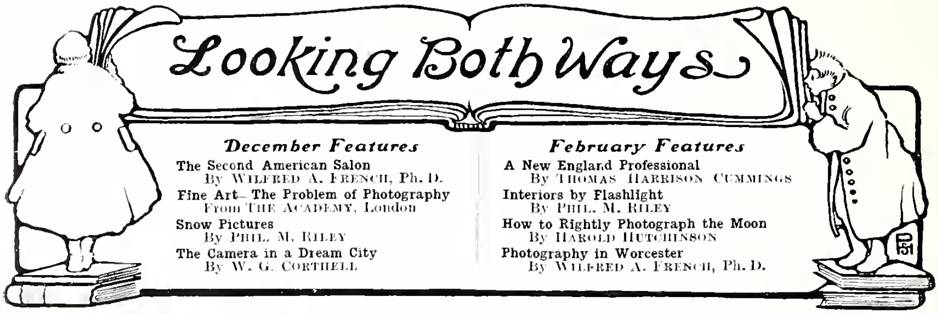
As a purely scientific and practical contribution to photography, no work, whether annual, monthly, or weekly, can possibly excel this sterling English annual. The volume contains a wealth of the most useful photographic knowledge, descriptions of up-to-date devices, improvements, printing methods, apparatus, etc., all of the most practical character. Its table of formulas should appeal strongly to every photographer, professional and amateur alike, for they are derived from reliable sources in a country where photography in all its varied branches is practiced with the utmost enthusiasm and the highest intelligence.

OUR cover this month is one of the Rhododendron Deckle Edge Covers made by the Mittineague Paper Co., of Mittineague, Mass. Among the eight colors and three finishes to be had in this line of covers alone, the photographer can find a backing to bring out the best in practically every picture. The grays and blacks are especially fine for winter scenes, while the browns are effective for the various sepia processes now so much in vogue. All of the Mittineague covers are absolutely free from chemicals and the colors are permanent.

DEUTSCHE KUNST UND DEKORATION, ILLUSTRIRTE MONATSCHRIFT, FUER MODERNE MALEREI-PLASLIK-ARCHITEKTUR-WOHNUNGSKUNST- UND KUENSTLERISCHE FRAUENARBEITEN. Alexander Koch, Darmstadt, Deutschland. Price, 2.50 Marks. Yearly subscription, 26 Marks.

We have at hand the November and December numbers. The general character of this superb monthly magazine was fully described in the PHOTO ERA of October, and, as it is a firmly established favorite in Germany, it is seeking to make new friends in this country, where the best of German ingenuity and taste in constructive ability finds ready appreciation. The Germans, under the guidance of native architects possessed with original ideas — as brilliantly exemplified at the St. Louis World's Fair, and especially in the newer residence sections of Berlin, Dresden, and other important cities of the empire — are developing a style of domestic architecture peculiarly their own. Much thought, productive of excellent results, is also given to interior decoration and furnishings and the general effect is one of simplicity combined with solidity, suggesting the severely classical, one might say, yet making for convenient utility, with a quiet appeal to the demands of the unpretentious *Hausfrau.* Another of the salient features of the *Deutsche Kunst und Dekoration* is the German fine arts, dealing, however, only with their most modern phase. In painting Germany is in a peculiar state of transition, — reform, or whatever one chooses to call it. The artists of the brush seem to be somewhat in a tangle, as viewed by the antics in which some of the ultra-modern spirits are indulging. Among the rational workers — there are a few, however — is Arthur Volkmann, the notable painter-sculptor, whose two-sided ability forms the principal art theme of the November issue.

Fifteen superb half-tones amply demonstrate the rare creative genius of this young German artist, at present giving vent to his productive ability at Rome. Though a painter of uncommon talents, he excels as a sculptor, in which capacity he inclines emphatically towards the Greek ideal in the nobility, refinement, and elevated character of his conceptions, The full-page nude figures, so excellently reproduced in the November number, are of extraordinary beauty, and suggest the highest development of Greek art of the period of Pericles.



Looking Both Ways

December Features

The Second American Salon
By WILFRED A. FRENCH, Ph. D.
Fine Art — The Problem of Photography
From THE ACADEMY, London
Snow Pictures
By PHIL. M. RILEY
The Camera in a Dream City
By W. G. CORTHELL

February Features

A New England Professional
By THOMAS HARRISON CUMMINGS
Interiors by Flashlight
By PHIL. M. RILEY
How to Rightly Photograph the Moon
By HAROLD HUTCHINSON
Photography in Worcester
By WILFRED A. FRENCH, Ph. D.

We have received the following letter, which is self-explanatory: —

NEW YORK, *Dec.* 9, 1905.

PAUL FOURNIER, ESQ.,
East Aurora, N. Y.: —

Dear Sir, — We have noticed in some of the Photographic Magazines, one of your advertisements, wherein you offer to sell photographic goods to any one writing to you within thirty days, at the regular dealers' discounts. You name further a certain number of firms whose goods are supposed to be obtainable at those terms. Our firm is one of them.

Without entering into the merits of the case, and pointing out to you the utter impossibility of fulfilling the promise made in your advertisement, we protest in unequivocal terms against the use you have made of our name without our consent, and in a way liable to mislead our customers as well as the trade in general.

While we are not belonging to the trust, we are not anti-trust dealers. Neither do we wish to appear as fighting the trust, which the terms of your advertisement may cause people to surmise. Far less do we wish to have it appear as if we were giving you our support in the unqualifiable business proposition you are making to photographers. We wish, therefore, to impress upon you in unmistakable terms, that in no way, matter, shape, or form, do we allow you henceforward to make use of our name in your advertisements, this without prejudice of any further action which we may deem fit to take in the matter.

We trust you will take good note of the present request, and remain

Yours truly,
C. P. GOERZ OPTICAL WORKS.

IMPORTANT TO DEALERS

It has always been the policy of the Berlin Aniline Works to recognize legitimate dealers, and dealers only, in extending a trade discount, and we wish to emphatically state that this policy has not been changed. Also we wish to correct any false impression that may arise from a recent advertisement which appears in some of the photographic journals, to the effect that our goods are to be sold to consumers at dealers' discounts. As this announcement was made without our knowledge and our name used without permission, we feel that the above explanation is due, not only to the dealer but to the consumer. Also, this advertisement attempts to classify us as regards our business policy. This statement is a deliberate falsehood and an attempt to mislead prospective buyers, for in the conducting of our business we do not know the application of the word "trust" or "anti-trust."

As we value our reputation highly, it is our intention that our good name shall not be traded upon by any one to advance their business interests or to promote any advertising scheme.

Being the manufacturers of the following articles, Metol, Amidol, Rodinal, Eikonogen, AGFA Pyro, AGFA Intensifier, AGFA Reducer, Blitzlicht, AGFA Isolar Dry Plates, and AGFA Lantern Slide Plates, and proprietors of the well-known AGFA trade-mark, it has been our aim to promote the sale of our goods in a way that is in keeping with good business methods, and we would suggest, as a protection to all purchasers of our products, that they carefully note that the AGFA trade-mark is on every package, and thereby avoid any possible pitfalls.

Yours truly,
BERLIN ANILINE WORKS.
F. HARRY HALL,
Mgr. Photographic Dept.

We desire to call the attention of our readers to the bargain advertisement of Williams, Brown & Earle, found elsewhere in these pages. Among the articles listed one can find valuable photographic material at a very low price.

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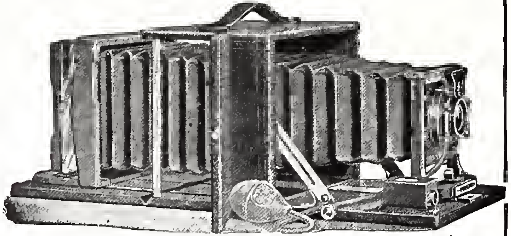

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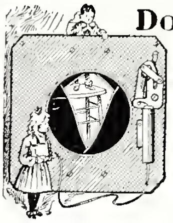

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PRESS COMMENTS.

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Everything is explained in such a clear concise manner that even the young photographer will have no difficulty in understanding the directions.—*Photo American.*

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It is arranged in a most comprehensive manner and the publication will find instant acceptance by those who desire a first-class text-book. Among the noticeable contributions are those from the pens of Messrs. Alfred Stieglitz, Radclyffe Dugmore and Rudolf Eickemeyer, Jr.—*Wilson's Photographic Magazine.*

EVERY PHASE.

This book covers, very thoroughly, every phase of photography that will interest the amateur. The space devoted to the theoretical part is brief, but sufficient; then possible subjects are dealt with at great length, including "Out-door Work," "Street Scenes," "Landscape," "Pictorial Photography," "Portraiture at Home by Daylight and Flashlight," also "Interiors." Then follow all the essential technical processes, and last of all, some interesting special articles.—*Photo Beacon.*

CAN BE UNDERSTOOD.

The average book is generally padded or so prosy that it is no wonder that the bulk of the authors are an impecunious set, but could they prepare such a book as "The Modern Way in Picture Making," then they would have something useful, right to the point and worthy of commendation. We unhesitatingly recommend it to our readers as being the best of its kind ever published. Everything is treated in a simple manner, thoroughly exploited by people who do know how and they tell it so they can be understood.—*The Camera.*

PRACTICAL.

All in all, the book is worth many times its modest price to anyone interested in photography, and the fact that it comes from the Kodak press is a guarantee of its thoroughly practical nature.—*Camera Craft.*

TO THE POINT.

Every phase of photography is handled by experts, and the matter is all clear cut and to the point. It is noticeable that practical, hard, solid facts have a prominent place in this book, while the theoretical side is merely touched upon to the extent of explaining why things are so and why not.—*Professional and Amateur Photographer.*

CLEVERLY WRITTEN.

A cleverly written book for the amateur photographer, and while specially written with reference to picture making by the Kodak system, it contains a vast fund of practical information for the photographer using any camera and working with or without a system. The chapters on Pictorial Photography, Portraiture at Home, Out-of-Door Portraiture and Portraiture by Flashlight contain suggestions of great value to even the photographer classing himself as a "pictorialist."—*Photographic Times.*

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PHOTO ERA THE AMERICAN JOURNAL OF PHOTOGRAPHY

Vol. XVI **FEBRUARY, 1906** **No. 2**

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Associate Editors: Wilfred A. French, Ph.D., Phil M. Riley, Herbert W. Taylor

Contributions relating to photography in any and all of its branches will receive our careful consideration. While not accepting responsibility for unsolicited contributions, we will endeavor to return them if not available, provided return postage is enclosed.

SUBSCRIPTION RATES

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Always payable in advance

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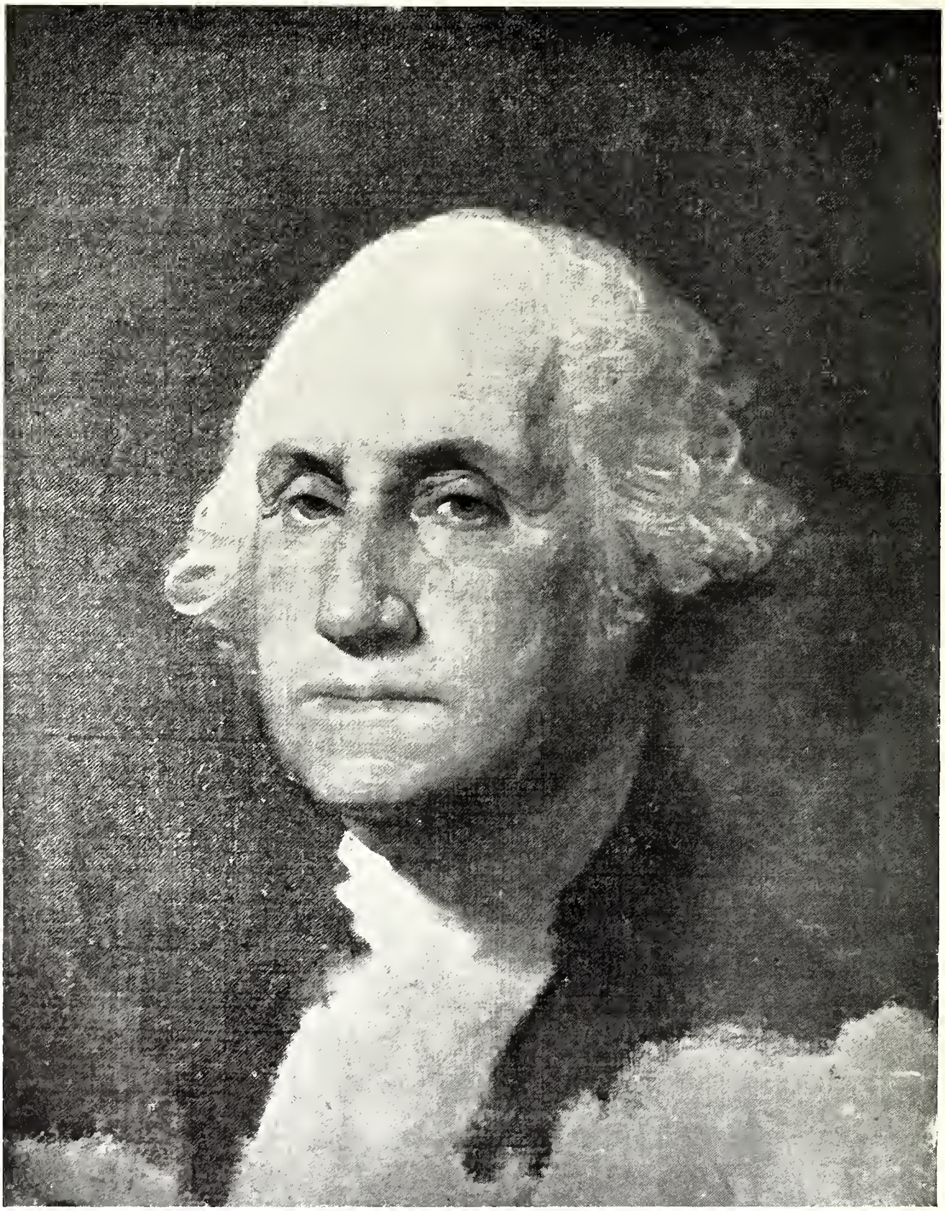


COPY OF GILBERT STUART'S WASHINGTON
MADE FIFTY-THREE YEARS AGO
JOSIAH JOHNSON HAWES

PHOTO ERA
The American Journal of Photography

VOL. XVI FEBRUARY, 1906 No. 2

A NEW ENGLAND PHOTOGRAPHER

RANDOM PHOTOGRAPHS BY CHARLES A. HOYLE OF BOSTON

THOMAS HARRISON CUMMINGS

IT has often been remarked by those who follow the Photographic Exhibits of this country that our portrait studies are often lacking in distinction. The lighting and posing may be good and the general technique excellent; the subjects themselves may be more or less remarkable; but as they appear in the finished photographs, they are somehow lacking in personality. They are not photographs of real personages. The photographer has evidently failed to render that which is distinctive in his subject. Of course, if the subject has no distinction that would appeal to a cultivated intellect, but only that which interests and amuses his friends and acquaintances, then the picture has no right to be hung as a sample of good portraiture in an exhibition. But there are few subjects who will not show in some way by outline of form, in movement or repose, some distinction of mind or body which might be of interest to our common humanity. For instance, in Sargent's paintings the most striking quality is always that of distinction. In Millet's peasant studies, though their bodies are bent and bowed with toil, they are exceedingly dignified and noble withal. Whistler's portrait of his "Mother" and his "Girl in White" are filled with imposing distinction. Such pictures mark the difference between the work of the painter, who is an artist, and the work of the man, who is only a skilled workman.

In most French and German portrait photographs there is a distinction that is quite marked and one that is easy to understand. They seem to catch the impression of distinction in the personality of their subjects which the American photographer often fails to render. And though they may err in their conceptions of the character of their subjects, their pictures are never commonplace, but are always interesting, to say the least. These thoughts have been suggested by an examination of the pictures of Charles A. Hoyle of Boston, one of the most promising of the younger generation of photographers of this city. His pictures are fine portrait studies of excellent quality. They represent a high general average of American professional work. Yet, if any criticism might be offered, it is that like most American photographs they lack the one touch of individuality and distinction that the French or German artist might give them, if he understood American life as the American photographer should understand it. And this criticism is not offered in disparagement of American photography, but is only a plea for a National School of Photography.

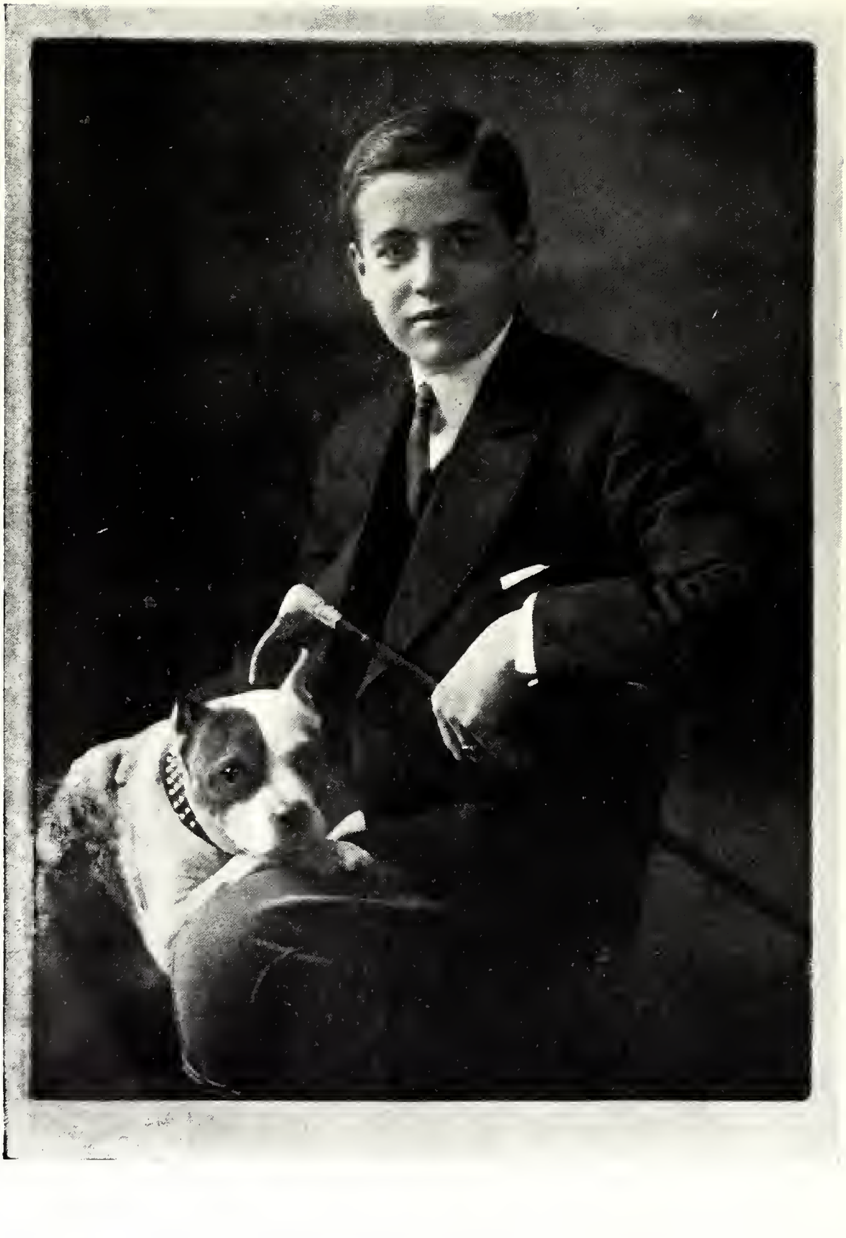
Within a period of six years, quietly and without any ostentation, Mr. Hoyle has been steadily climbing the ladder of success in picture making. Among the conditions laid down for success, in the Arts and Crafts manual, is a natural aptitude, thorough technical training, and a just appreciation of standards. The unit of labor should be an intelligent man, whose ability is used as a whole, and not subdivided for commercial purposes. Of course, it goes without saying, that the motives of the true artist should be the love of good and beautiful work as applied to useful service and the need of making an adequate livelihood. In no case, can it be primarily the love of gain. The results aimed at, are the training of a true craftsman, the developing of industry and character in connection with artistic work, and the raising of standards of beauty in objects of use. In all these facts we believe that Mr. Hoyle has made good. He was educated at the Hebron Academy, Hebron, Me., and his photographic bent was so marked, even then, that he spent most of his time during his vacation days in the Stanley Studio at Lewiston, Me., and at Old Orchard Beach. Later on, he came to Boston and worked several years with Charles Wesley Hearn, the present executive head of the National Photographers' Association of America. Meanwhile, his thirst for art knowledge was so great and his desire to excel in his chosen profession so insistent that he studied at the Cowles Art School and at the Boston Evening Drawing School. Here, his knowledge of composition, light, and perspective was increased, the relative value of light and shade was learned, and a beginning was made for a broad and liberal art education that has since served him in good stead. About this time, 1897, an opportunity came to purchase the Frees Studio at 288 Boylston Street, Boston, and the young photographer was not slow to improve this opportunity. In conjunction with Mrs. Hoyle, who was a former art student, he opened this studio and carried it on successfully for five years. Some of the best people in the city were soon numbered among his clients. In 1902 the present studio at 368 Boylston Street was erected. The winning personality and gentle insistence of Mrs. Hoyle that the standard of the Hoyle Studio should be only of the highest and best, have probably added more to their joint success than any other single influence. The difference between true works of art in photography and "mere art photographs" is, that the latter are made to sell and appeal to the love of display in the buyer, while the former are made for use and its appropriate beauty, — and appeal to love of use and beauty in the buyer. Good workmanship in photographs is essential always, but the right motive is what gives to good workmanship its life and interest. Hence these pictures are not only interesting to look at, but beautiful as well; because they are inspired by the right motive, — a love of the beautiful and the true. In seeking to give expression to this love in his pictures, Mr. Hoyle is happy in the highest sense, because he is conscious of making progress. Day by day the spirit grows strong through the exercise of its faculties, just as a muscle grows strong through frequent use. Expression is necessary to life and growth.

To express one's self rightly, whether it be in music, poetry, or the subtlety of beautiful lines in pictures, is to live and expand. Moreover, this effort on the part of the artist to secure right expression in his pictures involves the very marrow of his heart and character, because it means the habit of always doing his best. "The man who does everything to a finish has a feeling of serenity, is not easily thrown off his balance, and has nothing to fear," says the editor of *Success*. He can look the world in the face because he feels conscious that he has not put shoddy into anything, that he has had nothing to do with shams, and that he has always done his level best. This sense of efficiency, of being master of one's craft, of being equal to any emergency; the consciousness of possessing the ability to do with superiority whatever one undertakes, will give soul satisfaction which a half-hearted, slipshod worker never knows. When a man feels throbbing within him the power to do what he undertakes as well as it possibly can be done, and all of his faculties say "Amen" to what he is doing, and give their unqualified approval to his efforts — this is happiness.

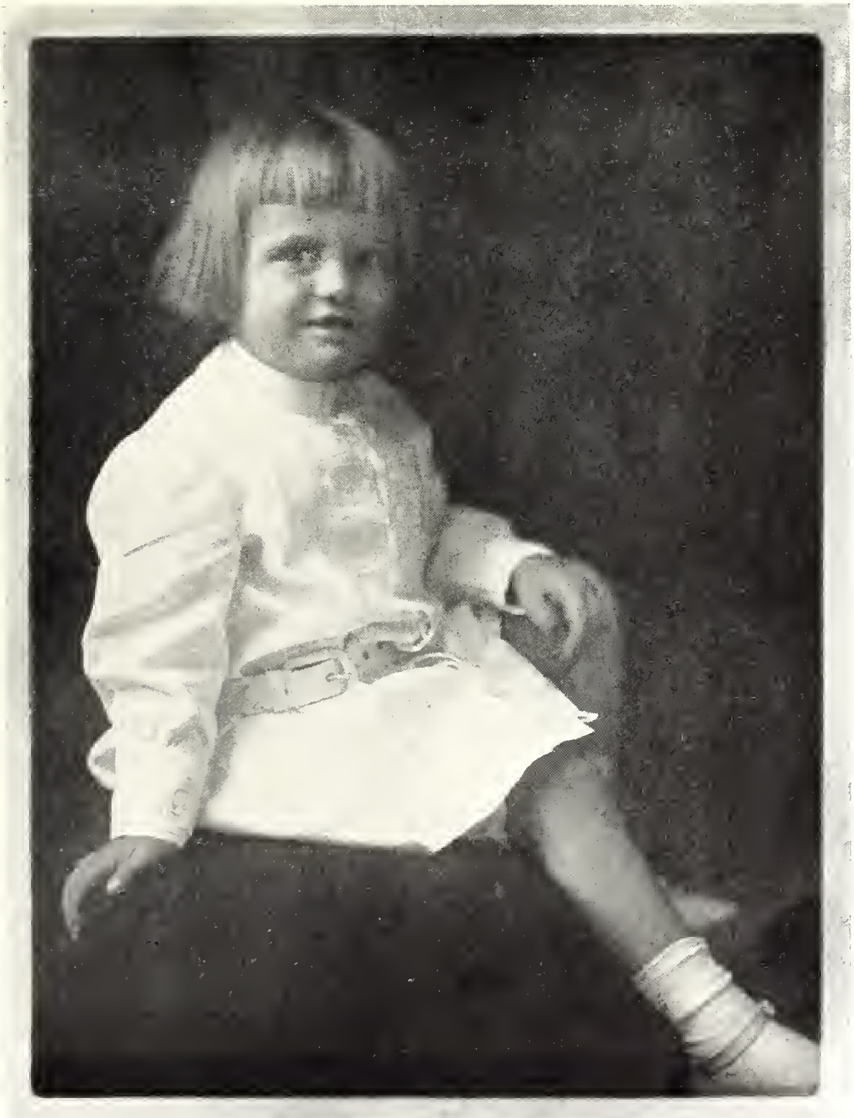
It is with this consciousness that Mr. Hoyle has won his great success in picture making. He has the habit, well defined, of always trying to do his best. In these dainty photographs there is a thoroughness of treatment, a lightness of touch, and a noticeable freedom from the conventional ways of doing things. One feels that the photographer is more interested in life perhaps than in art or photography, and he is so full of his subject that his pictures radiate it.

There is not a dull or uninteresting picture in his whole collection, and each one reflects the artist's personality. After all, it is the personal element more than anything else which has given photography its recognition as a fine art. Says J. C. Van Dyke, "A picture is but an autobiographical statement; it is the man and not the facts that may awaken our admiration; for, unless we feel his presence and know his genius, the picture is nothing but a collection of incidents. It is not the work but the worker, not the paint but the painter," not the photograph but the photographer.

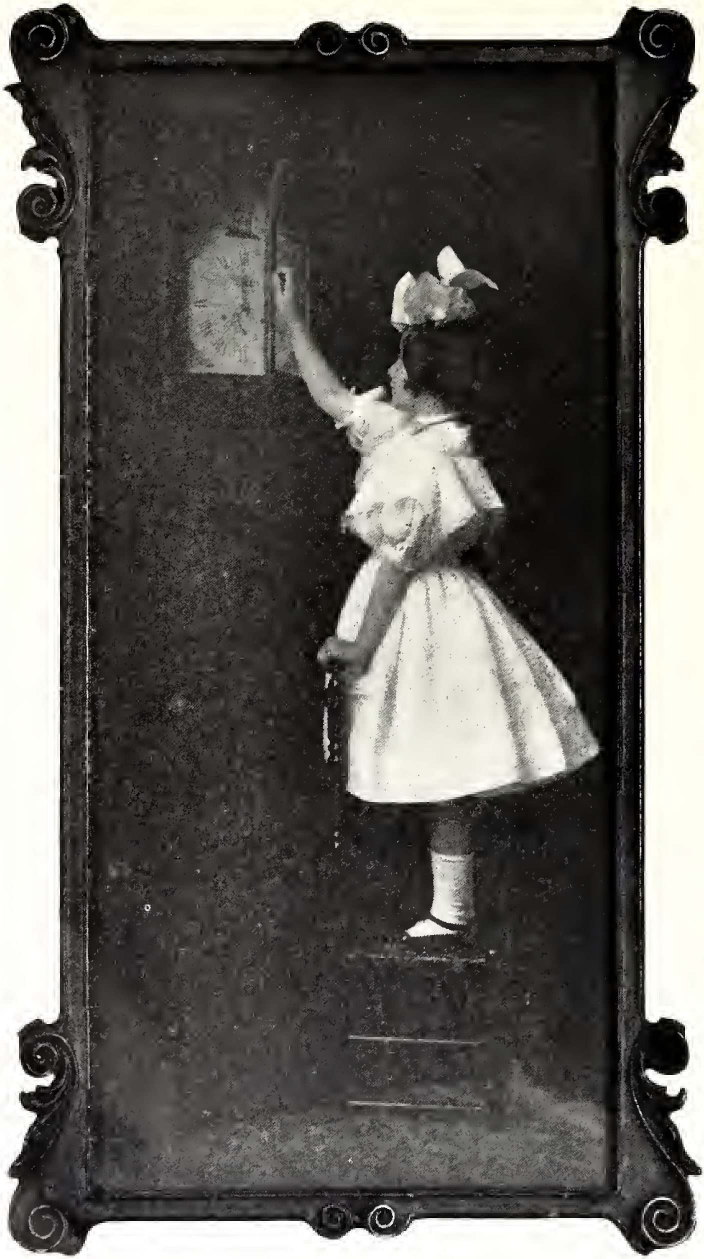
It is interesting to note that Mr. Hoyle is a financial as well as an artistic success. Within three years he has erected a second studio at Magnolia, Mass., one of the most exclusive summer resorts on the North Shore. Here his success has been equally marked, and he counts among his friends and patrons some of the best people from the West and South. With all his good fortune and success, he has kept a very level head. He is still modest and unassuming, with a strong aversion to notoriety of any sort, his only ambition being to reach still loftier ideals in his pictures. "I buy the pictures of Mauve," remarked a clergyman in Paris, "because he puts into them what I try to get into my sermons, simplicity, suggestiveness, and logical sequence." Perhaps the public reasons the same way, when it buys the Hoyle pictures.



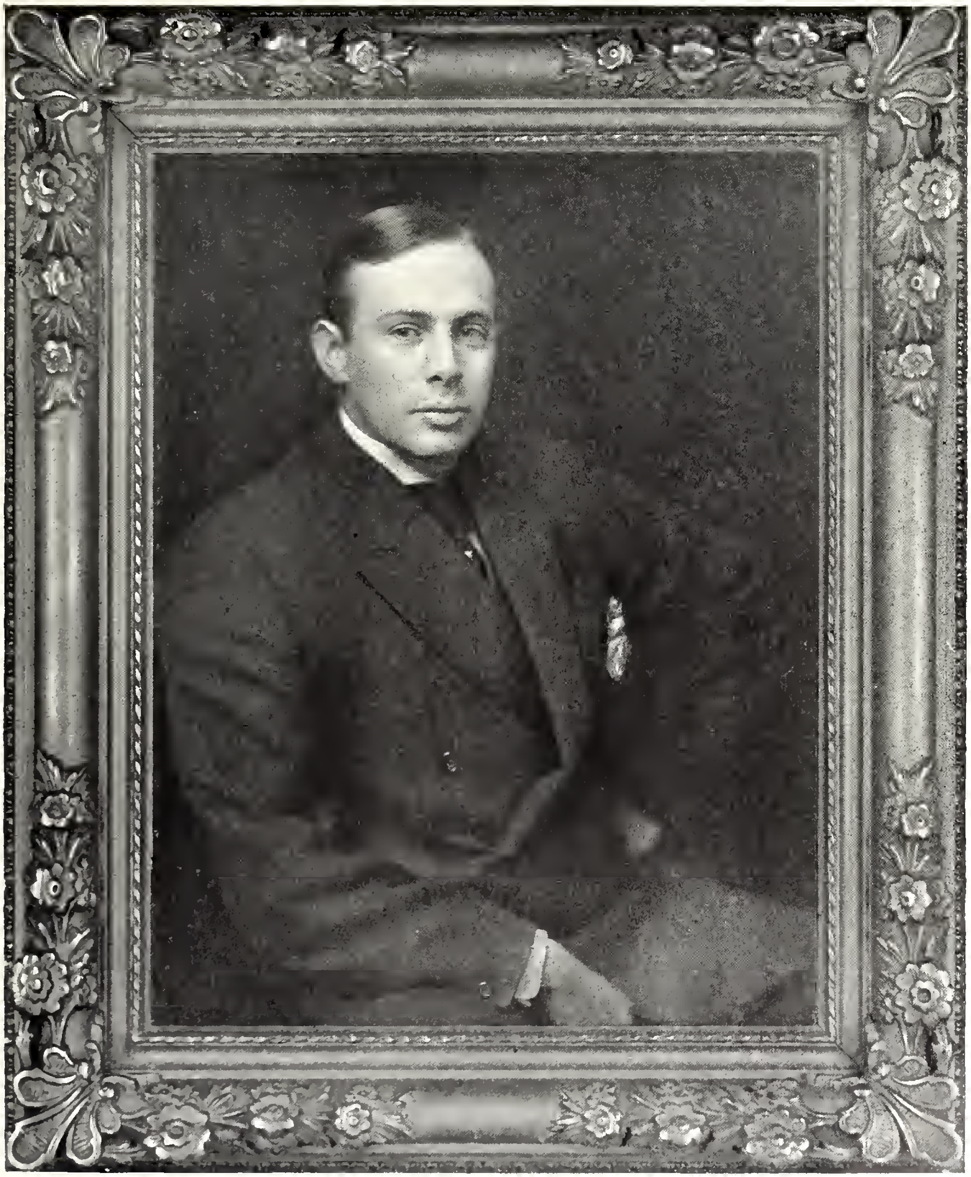
CHARLES A. HOYLE
LOVE ME, LOVE MY DOG



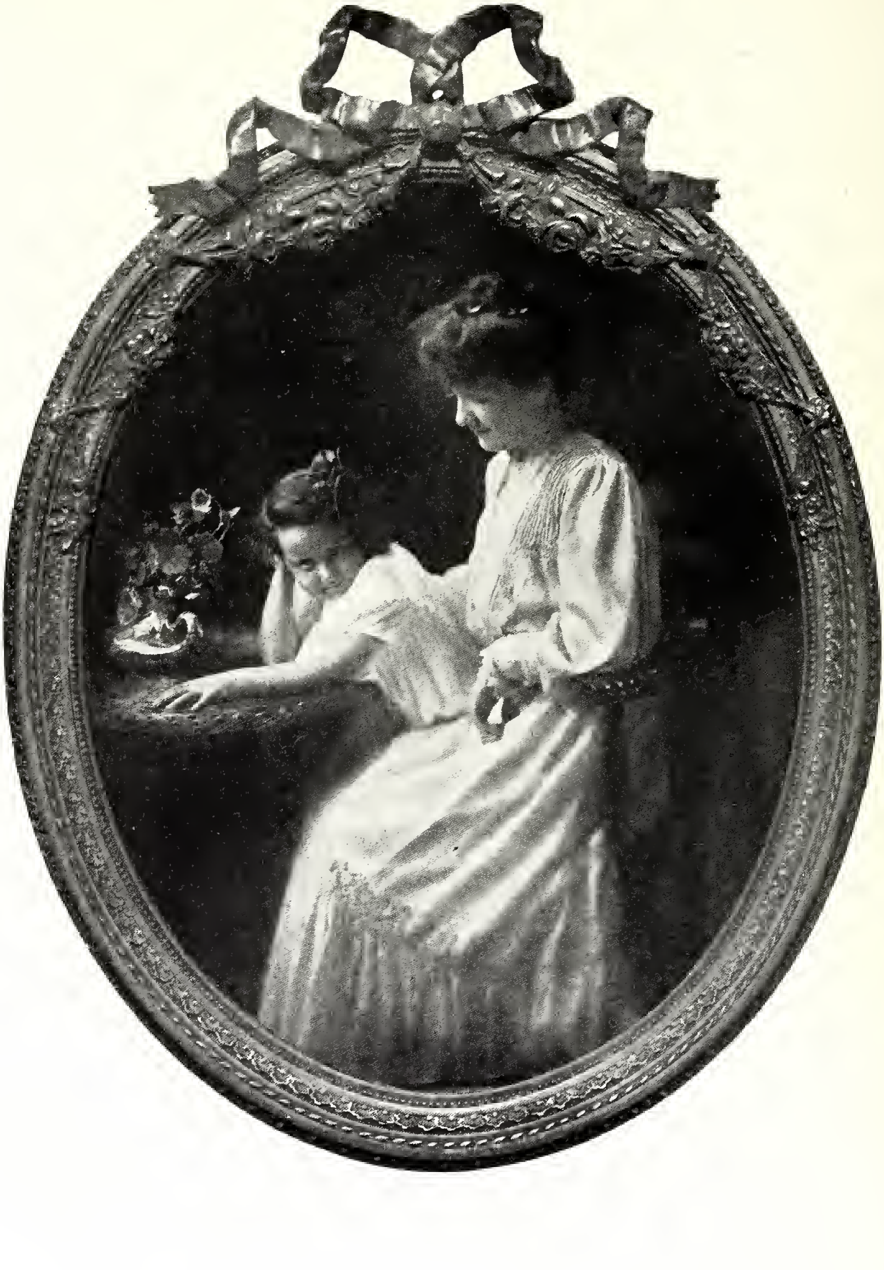
CHARLES A. HOYLE
CHILD STUDY



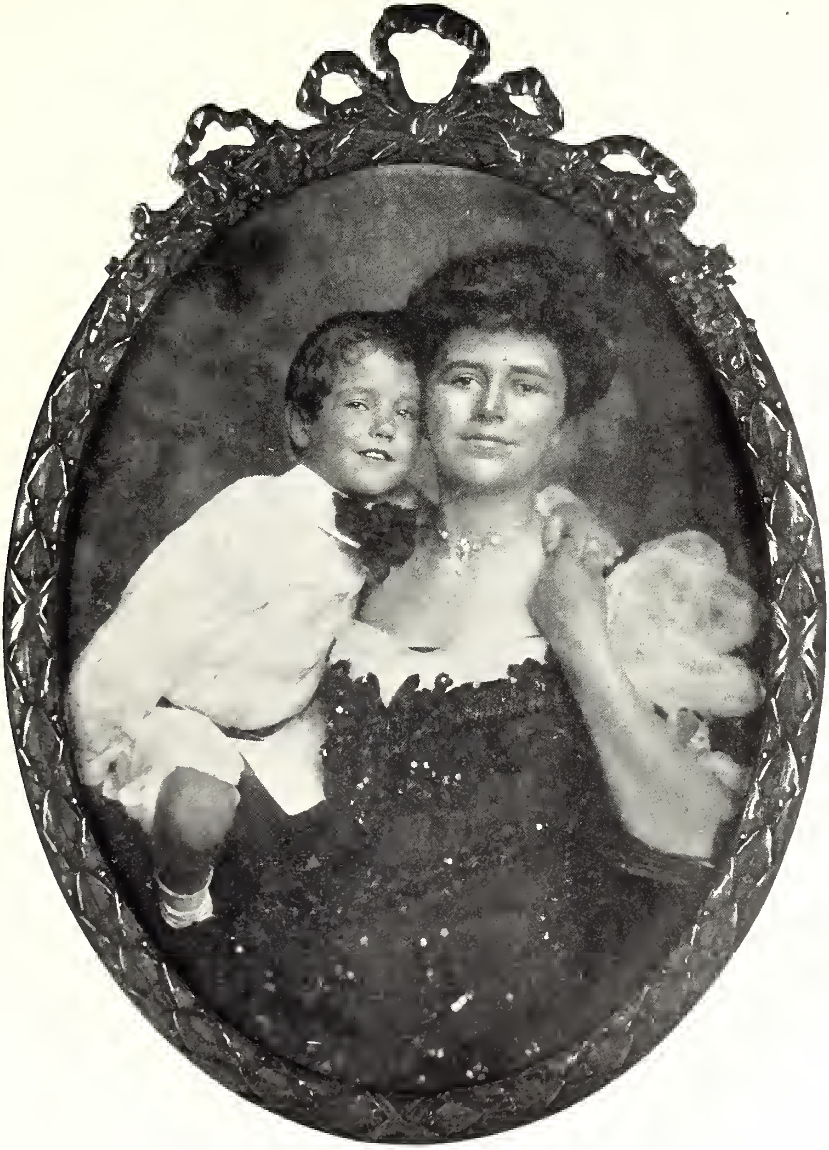
CHARLES A. HOYLE
CURIOSITY



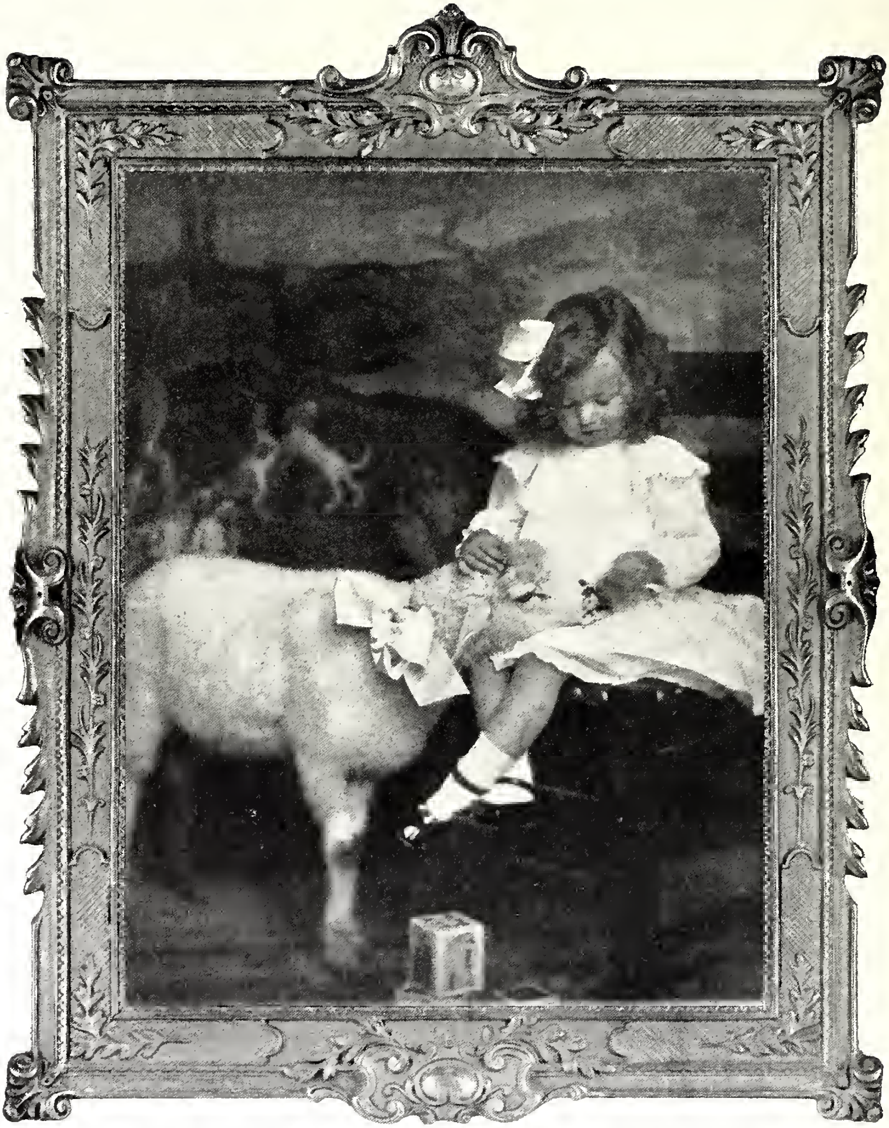
CHARLES A. HOYLE
PORTRAIT OF MR S



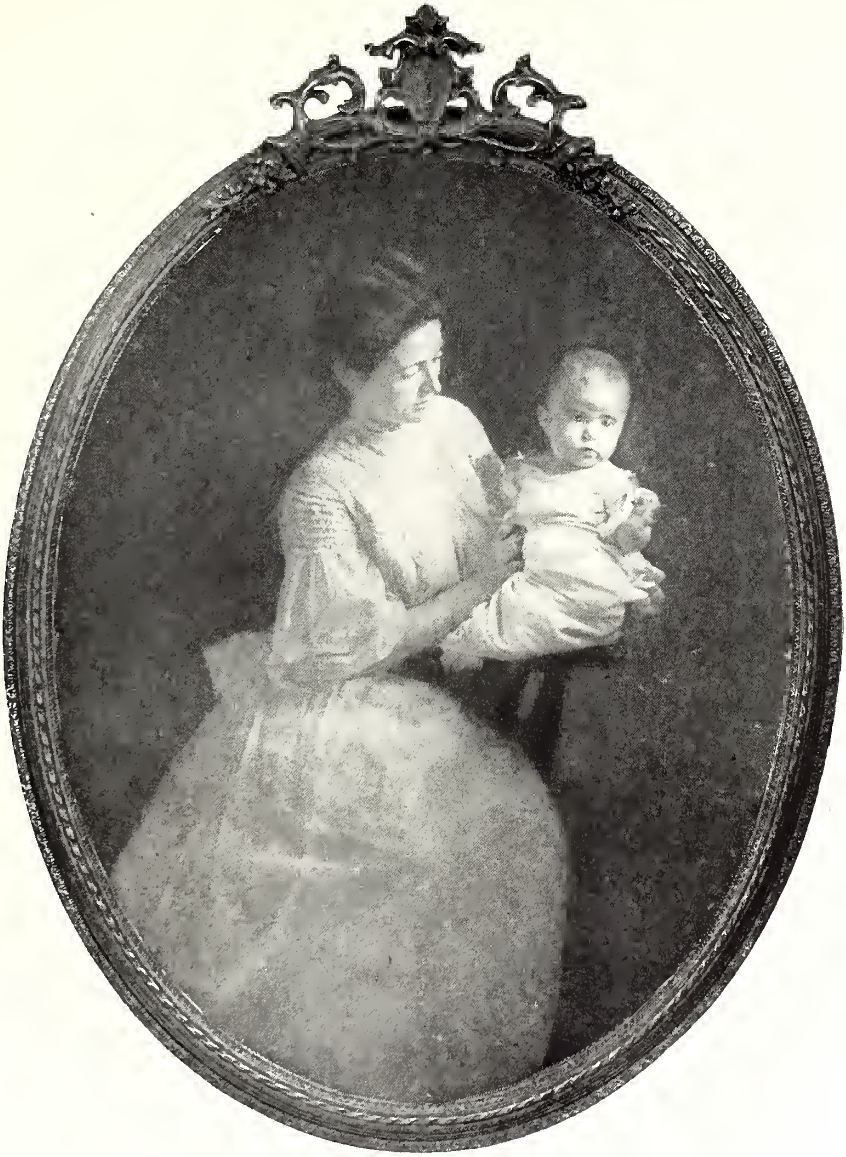
CHARLES A. HOYLE
MOTHER AND CHILD



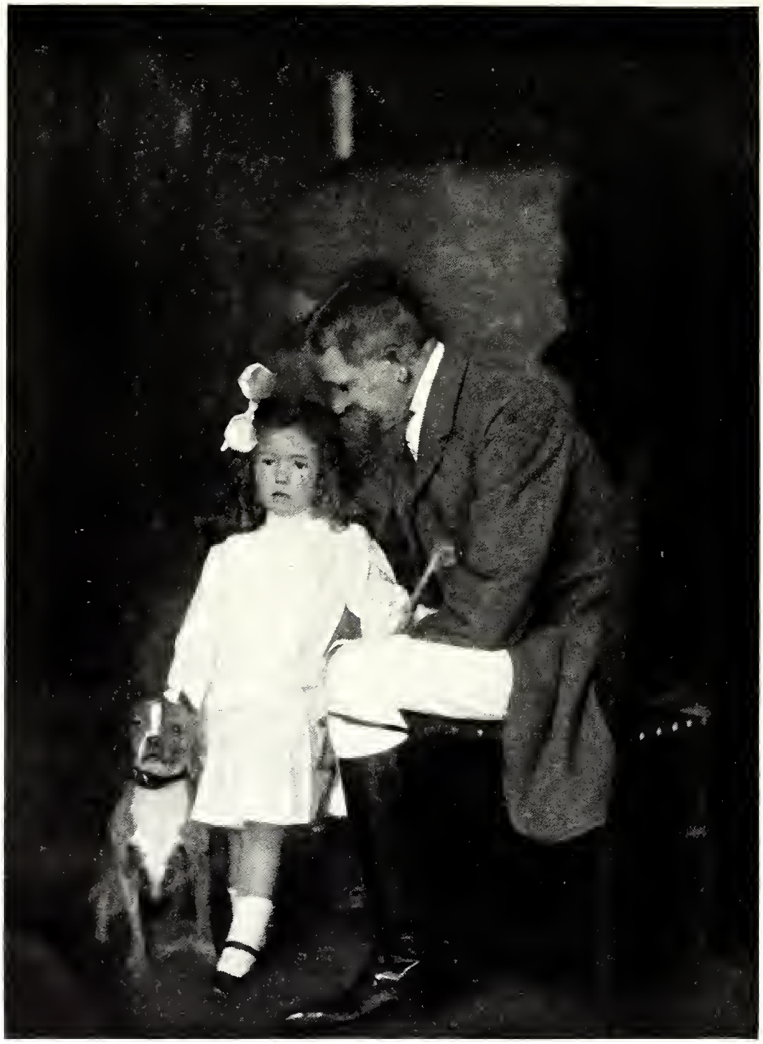
HARLES A. HOYLE
MOTHER AND CHILD



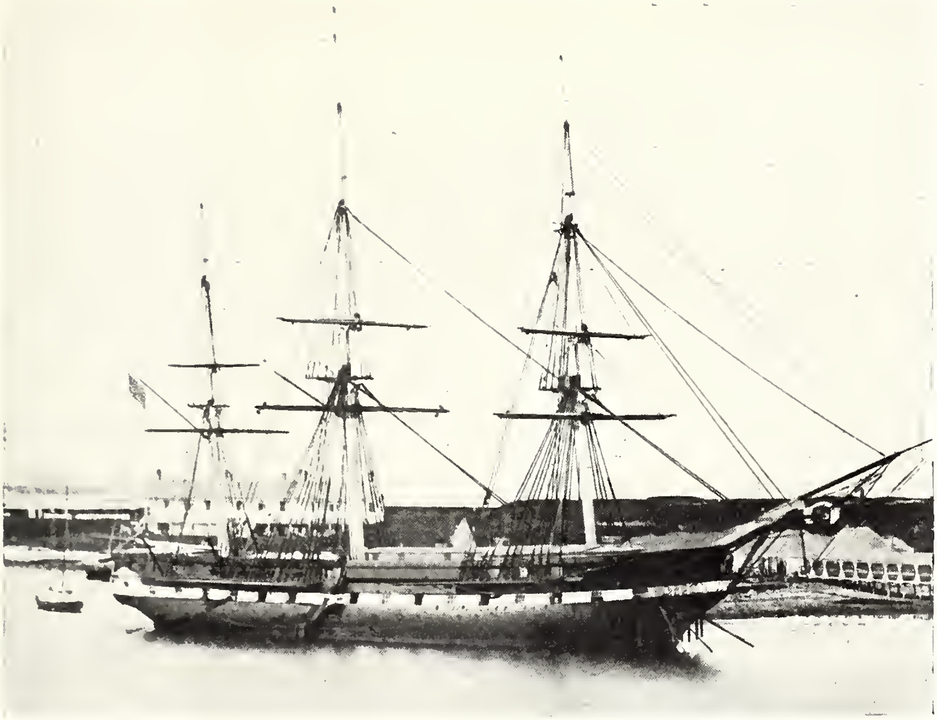
CHARLES A. HOYLE
CHILD STUDY



CHARLES A. HOYLE
MRS. H. AND CHILD



CHARLES A. HOYLE
AN ABSORBING STORY



N. L. STEBBINS OLD IRONSIDES

PRESERVE OLD IRONSIDES

ON January 20 President Roosevelt, in the presence of a distinguished company of public men, received the large petition of the people of Massachusetts protesting against the destruction of the frigate "Constitution" as proposed by Secretary Bonaparte of the Navy Department.

The words of the petition were painted in water colors on a drum head, beneath a remarkable oil painting, by Eric Pape of Boston, representing the "Constitution" as she is supposed to have appeared in her famous encounter with the English frigate "Guerrière." The signatures, which included those of almost every Massachusetts man of note, as well as the descendants of the officers and crew of the old frigate, occupy a length of 170 feet, and if the names had been written in a single column, the length would have exceeded the height of the Washington Monument.

After considerable discussion in official circles it seems to be agreed that the old fighting vessel shall be restored as nearly as possible to its original condition, and the PHOTO ERA wishes to join the patriotic citizens of Massachusetts in urging that this national and State relic of Revolutionary times be preserved at Boston near the wharf from which she started for the wars.

HOW TO PHOTOGRAPH THE MOON RIGHTLY

HAROLD HUTCHINSON

PHOTOGRAPHY, be it called an art or a science, still possesses many problems to sustain the interest of both amateur and professional in the keen pursuit of their solution. The whole subject is but young. Among the most enjoyable branches, however, and perhaps because they are among the more difficult in which to achieve success, are telephotography and night photography; with both of these we shall have some concern herein.

Telephotography is not, as might be supposed, the taking of astronomical photographs by means of a telescope, nor shall we deal with astronomical photography except in the most amateurish fashion, but is usually the taking of objects more or less distant on a much larger scale than is possible with the photographic lenses commonly in use. This requires the employment of a special lens system known as the telephotographic lens. This instrument was foreshadowed some seventy years ago when Peter Barlow, in 1834, in a communication to the Royal Society, remarked upon certain advantages that might be found in the use of negative lenses, in telescopes, in combination with the ordinary positive glasses. The principle was made use of astronomically at rare intervals until, some quarter of a century ago, mention was made of the possibility of applying the Galilean telescope, or opera glass, to the production of large terrestrial images. In 1891 patents by various well-known lens makers were applied for almost simultaneously, and the telephoto became an assured fact. Briefly, it is a system in which the application of a negative lens as the posterior element of a combination in which the anterior element is a high grade positive results in the production of enlarged images. That is to say, the system will produce images much larger than would the positive alone. Moreover, the size of these larger images may be varied by a mechanical increase or diminution of the distance between the positive and negative lenses in combination. As an offset to this convenience in usage are the facts that the time of exposure necessary to impress an image on the photographic plate must be greatly lengthened when the telephoto is used, that the camera must be very firmly erected, etc. Granted time enough, however, and certain other conditions, and the telephoto proves a most valuable instrument. It should not be inferred from what is printed above that telephoto exposures always consume a considerable time—indeed they last only for a fraction of a second under the best conditions—but that the exposures are very long compared to those needed for an ordinary lens under like conditions of object and light. Finally, no mention is made above of the fact that the telephoto is extremely useful at times for the photography of comparatively near objects, as such use has no immediate bearing for us.

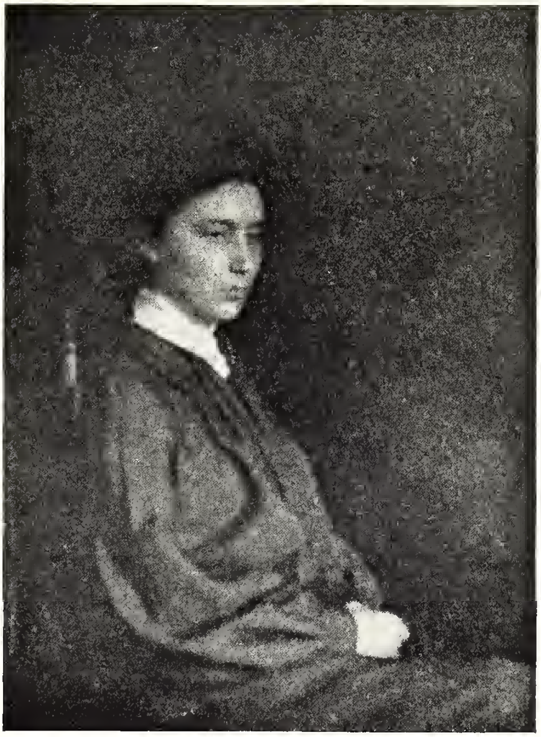
By night photography, herein, is not meant the taking of photographs by artificial light, such as gas, flash-light, or electricity, for such means are often an aid to the enthusiast during the daylight hours, but rather the impression of the plate mainly or wholly by the natural light of the moon or stars. The word mainly is advisedly used, in that many street scenes and other pictures taken at night necessarily include and are partially made by artificial light. It is perfectly possible, however, and often easier, to rely upon natural sources alone.

Successful photography at night is comparatively of recent date, the well-known views of London by Paul Martin about 1896 or 1897 being among the earlier examples, if, indeed, he was not the pioneer in this field. Following his have come many other photographs, till not only landscapes have been included, but such ephemeral objects as bursting rockets, and other forms of fireworks. Lightning flashes are particularly easy. The astronomer plots the stars of heaven on his photographic plate and calls it good. But to him who seeks in night photography the expression of an artistic impulse, a landscape, taking the word in its broadest possible meaning, possesses the greatest charm. Many attractive pictures have been produced, and illustrated in this magazine, relying often for the best pictorial effect upon the presence of snow or water upon the ground, for both of these lend reflected light as well as aid the beauty of the composition. Few photographs, if any, have included the moon. While depending on its light for the making of the negative, the principal luminary of the night, and one that so frequently aiding the painter by its presence would seem most fitting for introduction into a pictorial photograph, has been markedly neglected by the photographer. When this fact is called to the attention, does it not seem strange? And yet he has the best of reasons; the task has been beyond his means to accomplish, or, at least, he has thought so — much the same thing from a practical point of view.

Let us see what some of the difficulties are that have stood in the way of such photographing of the moon. Every one understands that a certain amount of light, be it direct upon the object or reflected, is necessary to impress an image on a sensitive photographic plate; and further, that the duration of the exposure varies more or less directly with the intensity of the light that is admitted to the plate. While this time may be but the infinitesimal part of a second, say one-thousandth, for a bright object under a strong sunlight, yet for a landscape under the weak light of even a full unclouded moon, the exposure must be from three to thirty minutes. This is with the best grade lenses. With poorer instruments, a moon obscured by clouds, or but partly illumined, the exposure may run into hours; and this in spite of some snow or water to aid in the distribution of the light. The source of the light is stronger than any reflection, however bright; when that reflection must come from dull terrestrial objects, the difference is enormous. Thus, for example, while the objects on the earth may need one hour to impress their image, even in outline, upon the plate, the moon, which provides the light, will require but a number of seconds to do the like for its own form. It will readily be understood that, under such circumstances, in a view including both the moon and the landscape, one or the other will be hopelessly over or under exposed.

FREDERICK HAVEN PRATT PORTRAIT OF H. H. B.

Yet again, let us suppose an extremely favorable case, when by favor of newly fallen snow the reflected light is strong and the landscape exposure may be reduced to a few minutes. Ah! Here perhaps the difficulty may not prove too great to bridge. Let us see. The diameter of the moon is equal to about one half of one degree. This being so, it will take not far from two minutes for it to change its apparent position in the sky by an amount equal to its own width. Unfortunately it moves a corresponding distance on the photographic plate in the same time. By consequence, if the exposure be lengthened sufficiently to include the landscape, the moon will appear in the picture, not as a disc, but as a more or less elongated streak of brightness across the sky. Plainly this will not do; and yet if the exposure be limited to the few seconds necessary to take a distinct image of the moon, no trace of other objects will be found upon the plate. Various attempts have been made to overcome these obstacles, some of which may be dismissed with a word. First, there were the cases of masquerading the sun into an appearance of his weaker sister. Underexposed plates with a strong sky posed as "moonlight effects." They were very pretty, some of them, answered very well to some extent, but were not genuine, and not one of them exhibited even a pretended moon. It was always just behind



MRS. HERBERT E. CHANDLER A PORTRAIT

the clouds, the reason for which will be given later. They then reversed the process and took a landscape with so-called underexposure under a clear sun, showing shadows. Later the moon was taken on a separate plate and "double-printed" into the daylight landscape. Once more a makeshift, and the result questionable as to a truthful rendering of the appearance of a moonlight night. The next and best method was to photograph the moon with a proper exposure, usually when about to set. Then the lens would be covered and the photographer could amuse himself with his pipe, his bowl, and his fiddlers three, until that moon had set. And the sooner it set the better. The troublesome moon once out of the field of vision, the landscape could be taken in the faint light of night at the elegant leisure of the gentleman with the pipe. This was genuine and might be reasonably expected to satisfy. Why did it not?

It will be noticed that, in a painting, the moon *appears* in proper proportion to the other objects, and the eye is satisfied. In reality it is painted too large. This is evident when explaining a photograph made under the method last outlined. The moon is there; but what a moon — a puny, insignificant affair, a dot, a pin-head moon! Scientifically accurate, it was impossible to content the mind with an image of a diameter often but about one one-hundredth part of the width of the photograph. And this also is the reason why the sun was always behind those clouds; its image is scarcely more imposing than the moon's. The task still remained to photograph the moon and have it appear of apparently correct dimensions to the eye. And here at last the means will be found in that same telephotographic lens which has been lying at hand these ten years past. Let the landscape be photographed, with an ordinary positive lens, when the moon is high in the heavens. If a lens of moderately long focus be used, and pointed southerly, the shadows will fall toward the observer, but the moon itself be high out of vision. After a sufficient time has been given to the terrestrial objects, substitute a telephoto lens, elevate the front of the camera to bring the moon's image within the field of the plate, and the queen of the night may be photographed on a scale to suit the most fastidious. In practice it will be found unwise to attempt a diameter exceeding about one half inch, owing to the fact that longer exposures are required for larger images with this lens, and that the moon stubbornly refuses to bide the hest of any modern Joshua. An image of such a size, however, will appear ample, even on the largest plates.

While the correct process has been given above in a few words, it should not be supposed that the successful taking of such a photograph is a matter of no difficulty whatever, though on the moderately expert it will impose but a little extra care. There are the shadows to be considered, wherefore the telephotographic image must be carefully and correctly placed upon the plate; hence the advice to take the moon well in the south. It will then merely be necessary to space it somewhere near the center of the plate. But if water, or other brilliant reflecting surface, be included, the task at once is complicated. The landscape exposure will have registered a bright path upon the water. As some time must be spent in changing lenses, readjusting the camera, and otherwise preparing for the telephotographic exposure, allowance must be made for movement of the moon; for a small displacement from the proper position is more quickly noticed in this case than when the eye has no means of judgment save the heavy shadows. The terrestrial objects having vanished from the ground glass when the camera is pointed high into the sky, this spacing must be accomplished by a system of measurements and allowances duly made during the preliminary focusing upon the landscape. Again, both exposures must be approximately correct, by no means an easy task with the variations of light and clouds that occur at night. That for the moon itself varies somewhat upon the amount of its disc which is illumined, while the reflected light changes to a great extent at different times during the month. Under these circumstances the hit or miss principle will not do. A careful record must be kept of the failures during early practice, and, when once success has been attained, endeavor should be made to repeat the conditions as nearly as possible.

A final hint may be of service to any one who desires to experiment along these lines. Moonlight is a somewhat yellowish light. Orthochromatic plates are more sensitive to yellow light than ordinary plates. This latter fact is well known, but seems to have been forgotten by many enthusiasts in this field.

CHESTER A. REED PREPARING BREAKFAST

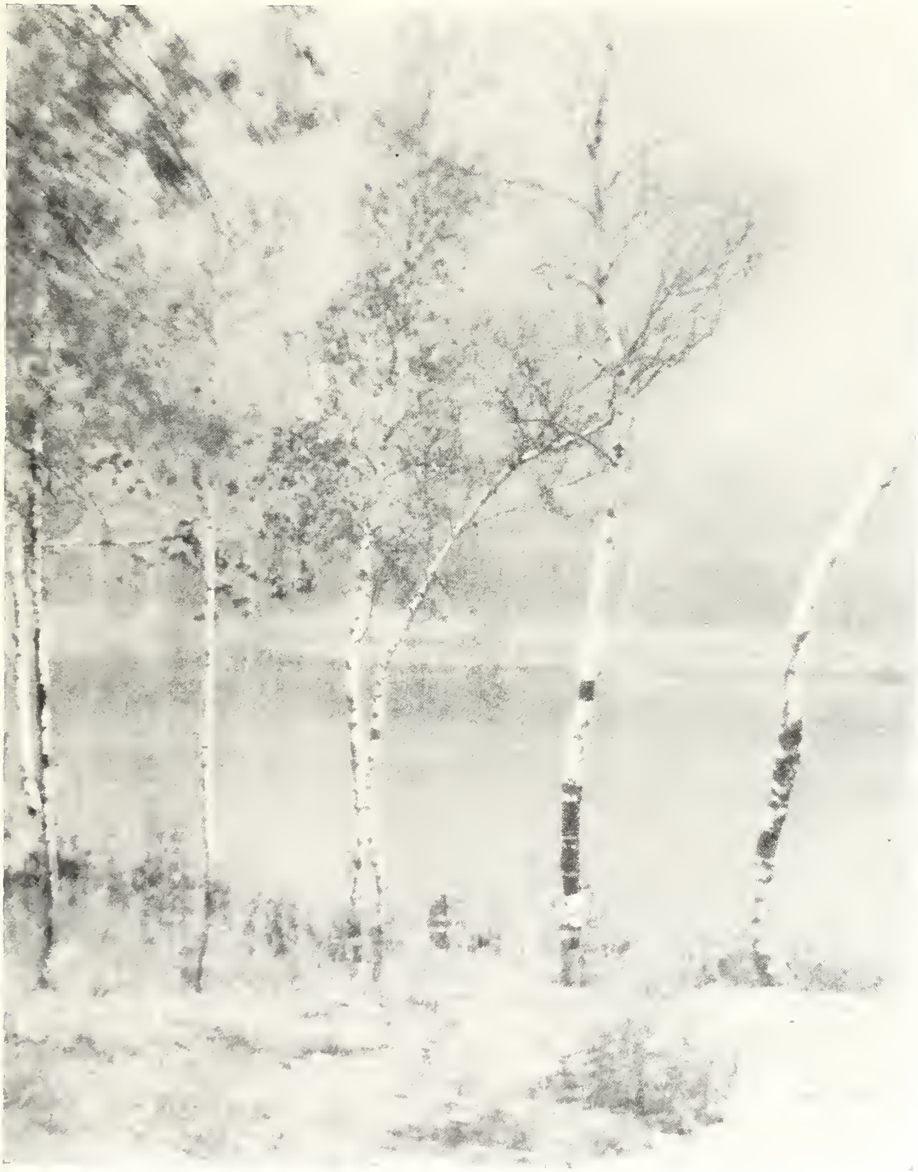
THE WORCESTER EXHIBITION OF PHOTOGRAPHS

WILFRED A. FRENCH, PH. D.

THE second annual exhibition of photographs, which was held in the Art Museum of Worcester, Massachusetts, for four weeks beginning November 12, last, was an event of more than passing interest. The main object was to demonstrate to the citizens of Worcester the advance that photography had made since the autumn of 1904 and, incidentally, to encourage the local workers by offering, for comparison with their best efforts, pictures by cotemporaries of superior ability. The latter class was almost entirely solicited, being indicated as a loan collection, and comprised standard works of the American Photo-Secession and the American Salon, each of these two schools being hung in a class by itself and separately. The efforts of the Worcester workers, while developed as individuals, each independent of the other, and not as the result of a concerted movement, showed qualities of a high order, but demonstrated the need of an intelligent and sympathetic controlling force. There was so much that indicated first-rate technical ability, sincerity of purpose and a general tendency to work in the right direction, that if these scattered forces were brought together and directed by an artist of strong individuality, executive ability and a sympathetic personality, and inspired by high motives, the result, we believe, would be a force to be reckoned with in the world of photography. We are not sure but that a worker, possessing these necessary qualifications, could be found among the contributors to the Worcester section of the exhibition. That a city, which stands forth preeminently as a musical center, having an university of considerable prestige and an art museum destined soon to rank next to the Metropolitan Museum of Art — in view of the unexampled munificence of the late Stephen Salisbury — should have no photographic organization, is astonishing, to say the least.

The Art Museum, in providing the finest possible accommodations for this photographic exhibition, not only showed that it recognized the high position photography holds to-day among the fine arts, but indicated sympathy of a practical sort, which evidence of good will is in itself an important factor towards the suggested centralization and organization of the photographic element in the city of Worcester. A more auspicious time for such a move could not be conceived, and to launch a society on the eve of one of the most important events in the art annals of this country — the intelligent disbursement of nearly five million dollars for art purposes by the Worcester Art Museum — is a happy coincidence, and should stimulate the fortunate members to efforts of unusual promise. We sincerely hope, therefore, that the photographic forces of this city will realize to the fullest extent the opportunity which is theirs and theirs only. No time should be lost and the watchword should be "Let us get together." Once set forth on the road toward achievement and under the intelligent and enthusiastic leadership of a man who stands for the highest and noblest in art, the photographic society of Worcester will not be long in reaching the goal. As it is predicted that, enriched with art treasures of rare value and exceptional educational facilities, the Worcester Art Museum will attract connoisseurs and art students from all parts of the country, even from the capital of the state, so it may be that the infant prodigy among New England's photographic bodies will expand into a flower of rare fragrance, beauty and attractiveness.

Owing to the fact that the amateurs of Worcester have worked singly and alone, and uninspired by organization or individual cooperation, their exhibit showed a lack of unity of purpose and of the impress of leadership. And yet, while the majority of prints evinced a certain distinctive quality of design, there were instances of a well-defined and pleasing individuality. To this class belong No. 10, "Firelight," in which the chiaroscuro is judiciously managed and the figures easily and naturally grouped, and No. 7, a broadly treated winter landscape — both prints by Frederic Bonnet, Jr.; No. 49, "The Old Mill," by Herbert R. Cummings, in which the main subject is quietly relieved against the surrounding landscape; No. 73, "By the Old Fish Wharves," by Harry N. Davis, and No. 135, "The Salute," by Chester A. Reed, displaying a fine sense of composition and uncommon pictorial effect. The work of Mr. Dwight A. Davis and Mr. Frederick Haven Pratt, however, rises to the dignity of Secession calibre, and that is saying much. The former's pictorial sense enables him to produce work that is artistic to a very high degree, fulfilling requirements of well-established rules, without being stiff or artificial, and with a fluent spontaneity that gives his pictures a restful and dignified appearance. These sterling qualities are discernible in such pictures as No. 55, "Softly the Shadows Fall," No. 56, "As the Mist Rises," and No. 66, a figure study entitled "Revery." Mr. Davis showed twelve prints, most of



DWIGHT A. DAVIS
AS THE MIST RISES

which of a character that stamp him as an artist of uncommon worth. In Mr. Pratt we come face to face with an artist who has won his laurels at the American Photographic Salon, which, in its journey through the United States, shows two of his prints, "Landscape in Northern Italy," and "Study of a Face," duplicates of which, No. 123 and 124 respectively, had a prominent place in the local section of the Worcester Exhibition, and which were reproduced in the PHOTO ERA of December, 1905. In the remaining prints of his exhibit Mr. Pratt demonstrated to what extent diffusion of outline may be carried by the use of the uncorrected lens, the object, evidently, being to create a striking atmospheric effect, a quality which judiciously emphasized, characterizes the original portrait-objective — the Petzval combination. A profile of a young man, showing this optical defect in the lens in a very marked degree, seems to defy close observation, but, when viewed at a distance of about ten feet, the confusing aspect of the print disappears and the effect is not at all bad. While excellently done, the portrait of D. B. by Louis F. Bachrach, shows the prevailing tendency among amateur and professional workers alike, to give undue emphasis to the face, by abnormally darkening or by obscuring the rest of the figure, which is usually accomplished in the making of the print. This is so obvious as to detract from the sense of spontaneity on the part of the artist, which the picture should convey. The height of art is to conceal art, and in the finished photographic print there should be no evidence of dodging, doctoring or faking. Honest, straightforward and convincing work should be the rule, which implies that photography should be practiced under conditions as favorable as possible, and that the principal working-tools should be of the right kind. Among the portrait and figure studies deserving special mention are those of Mrs. Herbert E. Chandler, whose "A Portrait," No. 21, possessed much charm. The very interesting picture, No. 137, "Preparing Breakfast," by Mr. Chester A. Reed, which has earned considerable celebrity for the artist, shows what patience and observation combined with effective working-apparatus will accomplish.

The interest of the exhibition was greatly enhanced by the loan collections. First in importance was a number of prints illustrating the work of the Photo-Secession, as exemplified by such well-known workers as Edward J. Steichen, Alfred Stieglitz, Clarence H. White, Eva Watson-Schuetze, Sara C. Sears, William B. Post, Joseph T. Keiley, Herbert G. French and others. These prints were on a wall adjacent to the principal collection of oil-paintings belonging to the Art Museum. Thus one had an excellent opportunity to note the result of comparison, which was inevitable, between works by noted painters and the expression of advanced ideas in pictorial photography. Curiously enough, many of these prints held their own, by dint of an original and strong personality, while others gave way entirely, vainly pleading for their *raison d'être*. In the adjoining gallery, with the Worcester section, was hung the work of miscellaneous exhibitors from outside of Worcester. Here we found much admirable work, the study of which must also have been inspiring to local

FREDERIC BONNET, JR. FIRELIGHT

workers. William H. Zerbe contributed ten of his most delightful pictures and there were valuable additions also from Mary R. Stanberry, Arthur M. Curry, Louis Fleckenstein, Eleanor W. Davis, Jane Dudley, Wendell G. Corthell, F. Holland Day, Horace Parks Lane, George W. Leighton, W. and G. Parrish, William T. Knox and others. In closing this review, we cannot refrain from criticising the tendency to hang prints closely together, as was the case at the Worcester exhibition. This overcrowding, noticeable also in exhibitions of paintings in art galleries, due to an evident desire to economize space, is decidedly detrimental to the successful assertion of the individual pictures, is fatiguing to the vision of the visitor and, on the whole, is inartistic as a possible decorative scheme. Aside from providing increased exhibiting facilities or reducing the number of pictures to be shown, an easy and practical way to overcome the difficulty is first, to cover the walls with burlap of suitable color; then, attach the prints, unframed, separated from each other by a space four inches or more in width, short nails being used to hold each picture with its cover glass in place. Such a plan yields obvious additional advantages and should commend itself particularly to itinerant exhibitions, such as the American Photographic Salon, now *en tour* through the United States.

NOTES ON ENLARGING

EDWARD S. KING

(Assistant in charge of photography at Harvard Observatory.)

IF one desires to do much work in enlarging, a special room is a great convenience. The enlarging room at our Observatory is next the dark room. Its length is about 15 feet and the general direction is north and south. A large mirror reflects light from the sky through an opening in the north wall of the room. When the sky is covered with patches of cloud, a paper reflector is found to be better than the mirror. If sunlight is needed, a heliostat is used, and a plate of ground glass interposed to produce uniform illumination. The ground glass must not be placed too near the plate to be enlarged, as its granular surface may be photographed on the enlargement, when the aperture of the lens is cut down. A mirror supported by a framework is sometimes employed instead of the heliostat, but it requires occasional attention to keep the beam of light on the plate.

The plate is fastened to a frame, made from a board, which is held by friction between cleats just inside the opening in the wall. This arrangement permits the plate to be moved in any direction and even to be rotated in its own plane. Special frames are provided for different sizes of plates, the largest plate being 14 x 17 inches. A large camera mounted permanently on a pier in front of the plate encloses the opening, and carries a lens which can be set accurately to any desired focus by means of a screw. As the room is dark, and has an entrance from the dark room, no holder is required, the sensitive plate being brought in one's hand and placed on the easel which is mounted on a track running the length of the room. The track is graduated to indicate the number of inches between the original and the sensitive plates. The easel as well as the lens can thus be restored to any settings frequently used. One can compute the positions for any desired enlargement, and set the lens and the easel by means of the graduations.

For finding the approximate positions of the two plates with respect to the lens, the formula for a simple lens will answer very well. We must first know the focal length of our lens. The old rule of finding the distance between the image and the object when they are of the same size, and dividing by 4, is good, but, in practice, I think it is preferable to set also at some greater enlargement than unity. A convenient rule is, to find the distance between the plates when the enlargement is exactly 4 times and multiply by 4–25; or 10 times and multiply by 10–121. The results from these three ways probably will not agree exactly, but a mean of all will be near enough for our purpose. Having the focal length, we multiply it by the times of enlargement plus 1, which gives the distance from the lens to the sensitive plate. Dividing this result by the times of enlargement, we have the distance of the lens from the original plate. The sum of the two values is of course the entire distance between the two plates. For example, if an enlargement of 5 times is desired with a lens of 10 inches focus, 10 x 6 =60, 60÷5=12, and 60+12=72 give the three distances.

The distance between the plates, or the easel setting, is the chief requisite for determining the enlargement, as the position of the lens can be obtained by focusing. When one particular lens is used frequently, it is convenient to plot the settings of the easel for different enlargements. Figure 1 shows such a curve (on a reduced scale) for a lens of 10 inches focal length, and corresponding to enlargements from 1 to 10 times.

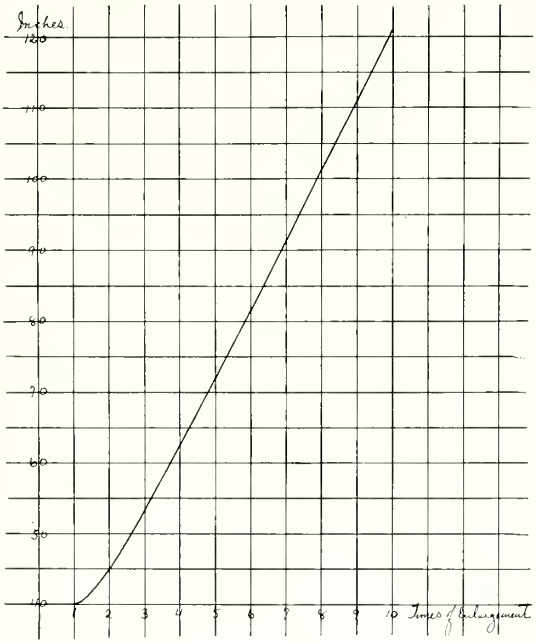


FIGURE 1

A slight change in the position of the lens made to improve the focus will not affect the scale appreciably, except when the enlargement is near unity. In that case it is better to set the lens and correct for focus by moving the easel. For adjusting the position of the image and obtaining the focus, a dummy plate covered with white paper is used. A piece of white paper held in the hand is of assistance in determining whether the focus is in front of the plate or not. Judgment must be used as to the sharpness of focus obtained. Professor W. H. Pickering found that bad definition is sometimes valuable for destroying the grain of a negative. Figure 2 shows the image of a double star enlarged in focus and out of focus, the enlargement being the same in both cases. The silver particles which appear prominently in the first photograph are almost obliterated in the second.

The question of what exposure to give is frequently a perplexing one, although an old operator will be able to make a close estimate by noting the

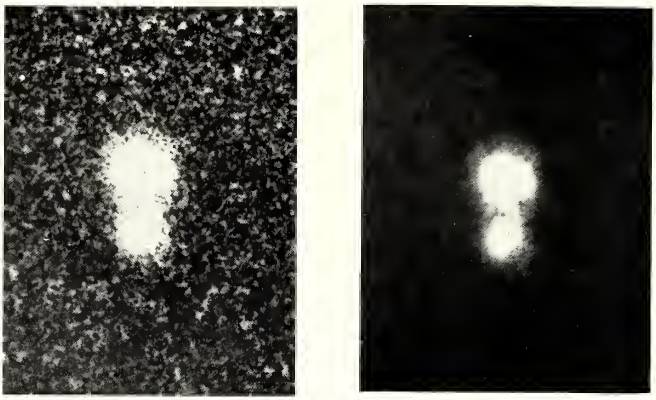


FIGURE 2

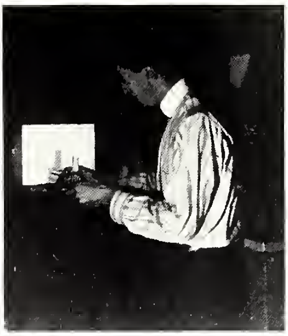


FIGURE 3

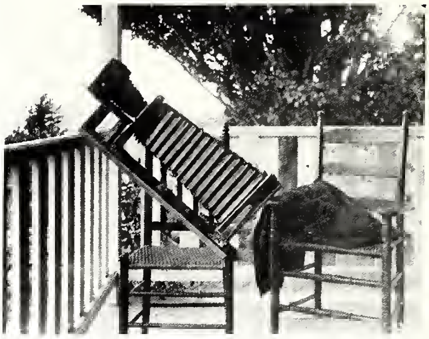


FIGURE 4

brightness of the light on the dummy plate. All persons, however, cannot turn their eyes into light meters, and some better means of measuring the light through all its transitions is desirable. It will not always do to expose a trial plate, as the conditions may change completely before it can be developed and examined. A simple test is to interpose a lighted candle in the beam of light from the lens and note the shadow of the candle itself as cast on the dummy. This effect is shown in Figure 3. By moving the candle toward the dummy, a position is found where the light from the candle just obliterates the shadow cast by the light from the lens. The distance of the candle from the dummy is a measure of the light, and the exposure is proportional to its square. For example, I found for a certain class of work with Seed Process plates that squaring the distance expressed in inches, and dividing by 4, gave the exposure in seconds.

HERBERT R. CUMMINGS THE OLD MILL

The relation of the exposure in seconds to the square of the distance in inches is easily found by trial, for we can use the candle test with exposures obtained by any method, and determine the ratio from the best results. The kind of candle is not material so long as we use the same for all our experiments. There is some difficulty in noting just where the shadow disappears, and different eyes may vary in fixing the exact point. In general, a gentle lateral movement of the candle will enable one to see the shadow better, and make the observation of the disappearance more accurate. If the light from the lens is too faint to cast a shadow of the candle at a reasonable distance from the dummy when the aperture to be used for the enlargement is in place, we may increase the aperture for the test and allow for the change in the computation. This method of finding the exposure, if not exact, nevertheless affords a better approximation than given by the unaided judgment.

For those who do not have a suitable room for enlarging, various devices are available. A large 8 x 10 camera, which has the camera-back as well as the lens movable by a rack and pinion, is most convenient. The rules for adjusting the relation of the lens to the plates will enable one to know his limitations and plan accordingly. For example, with a lens of 6 inches focus, and a camera extending to 30 inches, we find that 30 divided by 6 gives 5. As 5 must be the times of enlargement plus 1, it appears that we are limited to an enlargement of 4 times, if we use the camera to enclose the space from the lens to the sensitive plate. Figure 4 shows two cameras mounted on a board for enlarging, and directed to the sky for illumination. The work of mounting required less than an hour. The 4 x 5 camera is not really necessary, as a frame for holding the plate and a piece of focusing cloth could take its place. With such an apparatus one can do enlarging on the veranda during his summer vacation. In all the work of enlarging, it is important to remember that the front component of the lens must be directed to the sensitive plate. This calls for the reversal of the lens-board of the large camera in the illustration.

A PHOTO-ERA TOUR IN EUROPE

(Continued)

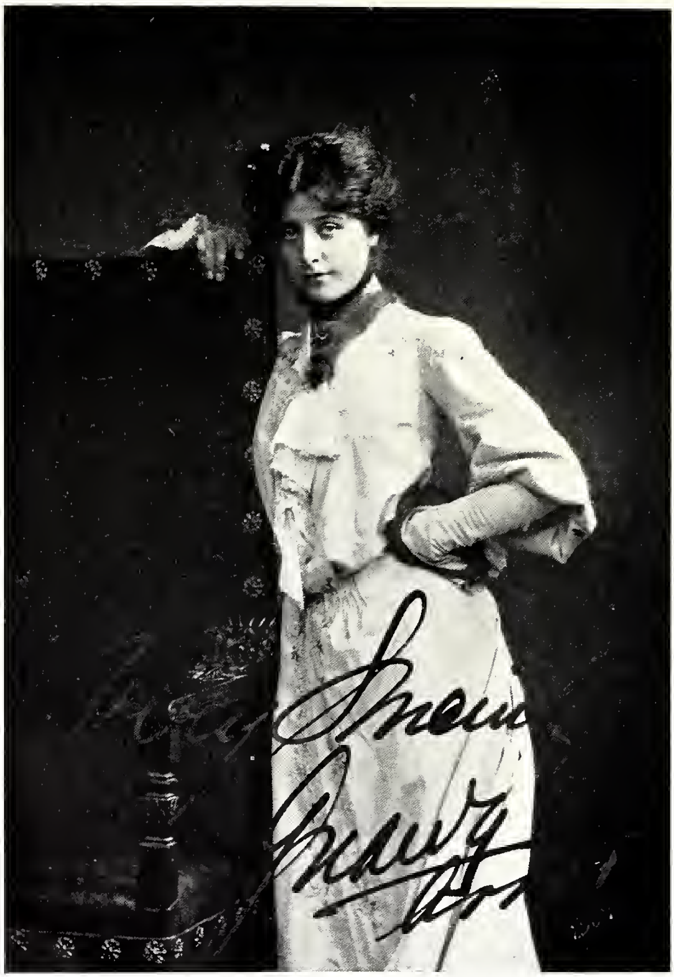
Hamburg and Berlin

WILFRED A. FRENCH, PH. D.

OUR first introduction to characteristic German life was an evening spent at the Hamburg Rathskeller, a spacious restaurant, and, as is usual in Germany, situated in the basement (*Keller*) of the *Rathaus* or Town Hall; hence its name. Our camerists here sipped from quaintly-fashioned steins Waldschlosschen and Wurzburger, two popular brands of native Lagerbier, to the accompaniment of exhilarating music from a gypsy orchestra; were impressed by the elegantly-uniformed German officers, pompous and conceited, who were present in large numbers; noted the many curious and admirably executed frescoes and carvings with queer mottoes in old German, visible everywhere, while the hum and the babble of guttural conversation, in a continuous stream, almost dulled our sense of hearing. The scene, almost confusing in its sense of novelty, revealed to the stranger the power of allurement of the high-grade German restaurant, as we had occasion later to observe in Berlin, Dresden, Leipsic, Munich, Heidelberg and other cities of the Empire. Before leaving the noble city of Hamburg, with its 800,000 population, we paid a visit to R. Duehrkoop, a man who, in building up an enviable reputation as an artist and a successful business man, has added not a little to the fame of his native city. Turning from the Alsterdam, at the Binnen-Alster, into Ferdinand-strasse, we soon reached No. 43, the atelier of the celebrated photographer. We were most cordially received by the artist, who graciously, and with modest mien, consented to show us through the establishment — a model one in arrangement and equipment. We were surprised at the large number of pictures here produced, proofs of a rare capacity for work. The most surprising feature of Herr Duehrkoop's remarkable activity is the versatility of his creative power, coupled with a strongly individualized artistic nature, which is noticeable in all his productions. Educated and cultured, in touch with the important movements in art and susceptible to their elevating influence, and favored with the appreciation of a large and fashionable *clientèle*, Herr Duehrkoop enjoys all the advantages of a man who has labored devotedly and intelligently in his chosen art.

In spite of its marvelous growth and obvious attempts to eclipse Paris in architectural magnificence, Berlin disappointed us. By previous arrangement, we were comfortably quartered in a pension in the Potsdamer-strasse, and were near the famous park of the Thiergarten, the splendid opportunities to beautify which have seemingly not been fully appreciated. The famous Sieges-Allee — a broad avenue separating two rows of elaborate marble statues, numbering thirty-two and representing the antecedents of the present German Emperor — exemplifies the munificence as well as the personal artistic taste of Kaiser Wilhelm II. We were impressed only with the enormous cost which these sculptured monuments represented. Our individual opinion of the art value of the statuary — and on this point our party was strangely unanimous — was at variance with the view expressed by newspapers anxious to propitiate those high in authority, but we discreetly refrained from giving audible utterance to our convictions. In another part of the Thiergarten is the Richard Wagner monument in white marble, by Professor Eberlin, which was unveiled a few years ago. It possesses several good points, notably the figure of Wolfram von Eschenbach, in front, and, at the left, Brunnhilde with the dying Siegfried, the group representing an episode in the opera *Die Walkuere.* There are numerous new monuments scattered through the park, and various parts of the city, most of them of doubtful artistic worth. Even the magnificent and imposing monument of Emperor William I by Reinhold Begas, near the Schloss, erected at a cost to the nation of four million *Reichsmarks*, cannot be compared with the superb equestrian statue of the Great Frederick, by Rauch, situated in the principal avenue, Unter den Linden, nor with the classically noble statue of the Great Elector, by Schlueter, not far away. For reasons not difficult to explain, our photographic muse was indifferent during our stay in the Metropolis, but we found compensating delights in the National Picture Gallery, where one needs to spend months and not days, so rich and rare are its art treasures. Nevertheless I was surprised and grieved to see here, occupying a place of honor, Albrecht Duerer's masterpiece, the portrait of Hyronimus Holzschuher, which, until a few years ago, had hung in the Germanic Museum of Nuremberg, the one priceless gem of its art gallery and the means of attracting connoisseurs and art students from all over the world. Inquiry into what seemed to me an example of high-handed greed on the part of the Prussian government, elicited from the guard a shrug, accompanied by the brief, but scarcely audible, remark "His Imperial Majesty."

Our craving for music of the kind not obtainable at home, was gratified by a performance of *Lohengrin* at the Royal Opera House, with a great cast, and Dr. Muck as musical conductor. Although I had heard the opera in the same house several years before, I was not prepared for so monumentally fine a performance, from principals, chorus and orchestra alike, as was given on this occasion. My companions were almost overcome by the beauty, the strength and the technical perfection of the presentation. The artistic *ensemble* of the martial features of the work, imposing and thrilling in the extreme, was in itself a revelation and moved us to enthusiastic expressions of delight. Through the courtesy of a friend, we attended the following day a rehearsal of the celebrated Lehrergesangverein, a male chorus of three hundred voices. Through



J. C. SCHAARWAECHTER GERALDINE FARRAR

the courtesy of its conductor, Prof. Felix Schmidt, the club sang a number of selections for our special benefit. Actuated largely by patriotic motives, we attended also a presentation of *La Traviata*, with our countrywoman, Miss Geraldine Farrar, in the title rôle. We secured excellent seats in the III Rang, esteemed the best location for hearing and seeing, for 4.50 Marks each. When "the Farrar," as she is referred to professionally, assumes an operatic part, she does not enjoy the sympathetic cooperation of those about her, for although being, in the opinion of unprejudiced critics, the most finished vocalist and actress at the Berlin Opera and a *protegée* of the German Emperor, she is a foreigner, and as such cordially disliked by her colleagues. Yet she carries herself tactfully, and in all her actions commands universal respect, even of

WILFRED A. FRENCH, PH. D. WAGNER MONUMENT, BERLIN

her jealous rivals. We had been told that, while she is superb as Juliet, Marguerite, Leonora and other important operatic characters, she really excels as Violetta and on this occasion gave incontestable proof of her splendid vocal and dramatic powers, her magnificent work receiving enthusiastic recognition from a large and brilliant assemblage. It was not the *Auslaenderin*, but the successful, triumphant artist, receiving the homage of a thoroughly musical audience; for like art, music is universal. Nevertheless, we were proud of the fact that it was an American who had achieved this splendid success and, twenty minutes later, we were celebrating the event at the Kaiserkeller.

Fearing that we were about to be overwhelmed by a regular, musical avalanche, we took a bold stand and, thoughtlessly leaving our cameras behind, made an excursion to Charlottenburg, formerly a distant, outlying village, but now closely united with Berlin, the once vast marsh separating the place from the Capital now being the most magnificent residence section of the great Imperial city. I made the trip in 1878, driving in an open carriage over a long, dusty road, through a wide stretch of flat, monotonous country. To-day, what a transformation! At that time Berlin had scarcely a million inhabitants.

Now, after successful attempts to surpass her old rival, Vienna, at least in point of population, it boasts of 2,034,000 inhabitants, or, including the suburbs — numbering twenty-seven municipalities — 3,021,000, very little of this vast increase in population representing the "scum of Europe," which, fortunately for the well-being of the empire, flocks to other parts of the world.

Our object in visiting Charlottenburg was the royal Mausoleum, with its famous recumbent figures of William III and his lamented consort, Queen Louise, sculptured by the loving hand of Rauch, who, originally a gardener, was taught the art, which he served so admirably, at the expense of the Queen. Since my former visit to this sacred spot, the well-meaning but somewhat over-zealous present sovereign had disturbed its simple and impressive grandeur by adding the sepulchral monuments of his grandparents, Emperor William I and Queen Augusta, neither of which has increased the art value of the mortuary chamber, which might reasonably have continued to be identified solely with the spirit of a noble and patriotic woman and the work of a great artist. Another example of the desire to contribute to the cause of art is the startling marble figure of the Archangel Gabriel in the vestibule, designed by His Imperial Majesty. One of our party, not fully acquainted with the gravity of the offense in openly criticizing acts of the head of the Imperial Government, ventured to ask an attendant what such a violation was called. The answer came promptly "*Majestaetsbeleidigung.*" Recoiling at the awe-inspiring designation of what seemed to her a perfectly legitimate diversion, the lady replied, somewhat surprised: "I should think the name in itself would be a criminal offense."

Now with all candor, the German Emperor, William II, is a most remarkable man, fully deserving the unstinted admiration of his subjects and, indeed, of every fair-minded person. He realizes to the fullest extent the value of personal interest and, therefore exhibits deep, sympathetic interest in every important industry and enterprise in his dominion. His activity is phenomenal. He also knows the value of advertising, for which reason he is the most talked about person living to-day. He is constantly doing something to be in evidence, which naturally increases his importance in the eyes of his people. The vitalizing influence of his personality is felt from the steamship line, — that sends magnificent and superbly-equipped vessels to every important seaport of the world, — to the Royal Porcelain Manufactory at Berlin, now the leader of that valuable industry in Germany. Thus he may consider it necessary to be a practical sailor or to make verbal suggestions in firing the decorated clay, in order to emphasize the value of his opinions on these subjects. He is a patron of the musical art and, although he does not himself perform, gives intelligent advice or an encouraging word to the interpreting artist. The fine arts do not languish for lack of stimulus from his Majesty, for he not only devotes serious thought to the work of the brush and the chisel, but gives freely from his private fortune. For proof, witness the wonderful Sieges-Allee in the Thiergarten and the three hundred or more bronze equestrian statues of

William I scattered throughout the empire, although the latter have been erected at the expense of the nation. In all that he does he is moved by a desire to so stimulate the development of German arts and industries, as to win for that country commercial as well as military supremacy among nations. He has already done much to make Germany the world power that she is, and with his help she will be in a position — well, we shall see. But laudable also as is his ambition to advance the fine arts in a corresponding degree, he seems to forget that such a process must be entirely spontaneous and that peculiarly favorable conditions must prevail. The fostering influences must be other than pecuniary, and it is doubtful if, with all his good intentions, Emperor William will be able to match that period of German art which the creative genius of Klenze, Kaulbach and Schwanthaler made so illustrious. His Imperial Majesty knows that this is the age of commercial and industrial supremacy, and that the time is seemingly not propitious to the *raison d'être* of a master genius. It is feared, moreover, that the ambitious German Emperor may not be as qualified to speak on questions relating to the fine arts as on topics of a more practical character. At the present time German pictorial art appears to be in a wonderfully disordered state, a near adjustment of which seems almost hopeless; but William II is scarcely the man fitted to bring order out of chaos, and matters are not likely to improve under existing conditions.

We were considerably surprised at the paucity of what we considered artistic photography in the great imperial city. Some of the older camerists remembered the old familiar names of Loescher and Petsch, and Schaarwaechter, whose establishments, we discovered, were still being continued, but the work had not changed from the days when Dr. Hermann Vogel was the active scientific authority in Berlin. The military element, totally supreme, its dominating influence permeating everything, visible and invisible, and controlling the very thoughts of the people, has put its cold and stagnating impress upon the life of the fine arts. What hope for photography? The photographic portraits of the officers of the imperial army must possess the utmost technical finish. Every button of the uniform of the proud wearer must be clean-cut, each decoration must stand out with perfect clearness, and the elegance of the *tout-ensemble* rigidly preserved. The wives and daughters naturally follow suit, and the civilian, forsooth, only too anxious to echo the views and opinions of the dominating class, dutifully fall in line. Several years ago a photographer of ability, means and influence, consumed by a desire to reveal the artistic possibilities of his profession to the benighted people of Berlin, ventured to open a studio, but, after an heroic struggle of two months and receiving no patronage from lack of appreciation, closed the place. While strolling along the Mauer-strasse one day, however, the eagle-eye of a camerist discovered in a narrow doorway a frame of photographs that had the right ring. It bore the legend "Carl von Duehren, Moderne Portraets." Overjoyed at the unexpected find, we ascended the four dark flights of stairs and interviewed the artist, a young German, full of courage and hope, but not embarrassed by an abundance of orders. His only instrument, an old-style whole-plate Voigtlænder, inherited from his father, also a photographer, yielded well-rounded, atmospheric portraits, which, printed on English platinotype paper in sepia, represented our artist's beautiful conception of the new photography. We lingered over an hour in the studio of this talented young artist, modest and engaging, with his face resolutely set in the right direction and satisfied with a fair amount of pecuniary success. We have since learned that Herr von Duehren has been very fortunate in his business venture and is now enjoying well-deserved prosperity.

It is not the purpose of these sketches to chronicle the doings of our party from day to day, nor to enumerate the multitudinous objects claiming our admiration, most of which appeared to us like old friends, having long been made familiar to us through photographs. To the majority of our little party travel in Europe was a novel experience, which, together with an ardent desire to make the most of every opportunity, to exercise discrimination in the selection of objects to be studied and to contemplate them intelligently, conflicted with our original plan to dutifully record our experiences with the camera. Truth to tell, the spick and span appearance of Berlin — to all intents and purposes a brand-new city — offered few *motifs* for pictures. One morning a number of us made a special photographic excursion to the neighboring city of Potsdam, romantic and picturesque, beautifully situated on the Havel, a tributary to the Elbe. The Schloss, the Mausoleum and the Palace and Park of Sanssouci — identified with Frederick the Great and Voltaire — excited our curiosity and admiration and yielded valuable photographic returns. The other camerists, in the meantime, had paid a visit to the optical works of C. P. Goerz at Friedenau, a suburb of Berlin, where they were most cordially received and shown through the large establishment, where the Doppel-Anastigmat was born and where thousands of these popular lenses are produced yearly. They were also deeply interested in the Trieder Prism Binoculars and numerous other optical specialties for which the name of Goerz is so widely known. In deference to the wishes of the majority of our party, we made a slight *détour* in our journey, going to Leipsic by way of Braunschweig, for the purpose of visiting the world-renowned optical works of Voigtlænder & Son.

(*To be continued.*)

STRAY LEAVES FROM THE DIARY OF THE OLDEST PROFESSIONAL PHOTOGRAPHER IN THE WORLD

FOUR years ago, on Aug. 7, 1901, there died at Crawford, N. H., whither he had gone for rest, Josiah Johnson Hawes of Boston, the oldest living professional photographer in the world. He was ninety-four years old, and did his own posing, developing, and printing until the last. He had been associated with the process of Daguerre from the time of its introduction into America in 1840. He built the first photographic studio with a skylight ever erected in this country. He sat at the cradle of

DWIGHT A. DAVIS SOFTLY THE SHADOWS FALL

photography and helped to rock it into life. He saw photography developed from modest beginnings into a popular science, then into a world-embracing industry, and finally its recognition as a fine art. He was part of this wonderful growth and development for sixty years — an experience that seldom falls to the lot of man.

We have recently been favored with some Mss. copy from an autobiography which we reproduce here through the courtesy of Dr. E. S. Hawes of the Brooklyn, N. Y., Polytechnic School.

"I was born February twentieth, 1808, in the town of East Sudbury, Mass. (now called Wayland). Seventeen years of my early life were spent on a farm. I was then apprenticed to a carpenter, and learned the carpenter's business, until I was twenty-one, and spent two years as a journeyman carpenter.

"Happening one day to come across an ordinary oil painting which I was admiring, a friend of mine asked me to close one eye and look at the picture through my hand with the other eye. The surprising change which took place, from its being an ordinary flat canvas to a realistic copy of nature with all its aerial perspective and beauty, so affected me, that from that time I was am-

GEORGE BUTTLER ROAD THROUGH THE WOODS

bitious to become an artist. I purchased books, colors, and brushes, and commenced the study of art.

"I practiced miniature painting on ivory, likewise portraits in oil, landscapes, etc., with no teacher but my books.

"About this time — 1840 — the excitement of the discovery of the daguerreotype took place; and some specimens of it which I saw in Boston changed my course entirely. I gave up painting and commenced daguerreotyping in 1841.

"My partner, the late Mr. Albert S. Southworth, and myself built a studio and carried on the business in Boston for the next twenty years. We had the reputation of making as fine daguerreotypes as were made by anybody. Some of them were very large ones — 20 x 24 — probably the largest ever made on silver plates.

"From 1841 to 1854 we made daguerreotypes only. After that the daguerreotype was given up for the photograph.

"As I was one of the first in the business, I had the whole field before me. In the early period of the art, all daguerreotypes of buildings taken from the ground were smaller at the top than at the bottom, the lines sloping inwards. In order to correct this, I made a camera with the holder for the ground glass and the plate frame suspended from a universal joint which could be set at any angle sufficient to correct the lines. This camera my partner and I used for ten years before any one else could make a picture with the lines of architecture parallel. This camera also had a holder made at the same time, the same as is now called the curtain holder (a device which has since been patented). The somewhat celebrated combination of lenses called the Dallmeyer lens, I made and used fifteen years before it was known under its present name. It was used for copying Washington Allston's sketches on copper plates suf-

FREDERIC A. MOORE — OCTOBER WOODS

ficiently silvered and the paintings of Gilbert Stuart. These plates were then engraved by John Cheney, following the lines of the daguerreotype.

"I think I made the first stereoscopic picture made in America. I am sure it was the first made in Boston.

"My partner and I received the gold medal of the Massachusetts Charitable Mechanics Association for a reflecting stereoscope. We likewise procured patents in this country and in Europe for a method of making stereoscopic pictures by two movements, lateral and perpendicular, which was thought to be an improvement on a single movement. Any one can test the idea for himself by looking at a landscape where there are many horizontal lines, by turning his head on one side so as to raise one eye a little above the other. He will perceive the stereoscopic effect.

"We were also the originators of the multiplying camera.

"We had many celebrated men and women of the time as our customers, among them Daniel Webster, Rufus Choate, Governor Boutwell, Judge Shaw, Ralph Waldo Emerson, Jennie Lind, Kossuth, Oliver Wendell Holmes, Longfellow, Dickens, Channing, and in fact almost every Bostonian of note, as well as many foreign celebrities."

In September, 1901, we wrote of Mr. Hawes as follows: —

"The PHOTO ERA is glad to pay this tribute to his worth here, because of the distinguished services he gave to the art of photography. The generation of great men and women who knew him, profited by his knowledge and marveled at his art-beautiful, are passed and gone. He was the last link in the long chain connecting the past and present of photography. But his memory will live in the hearts of those who delight to make pictures and who honor the profession of which he was such a distinguished member."

E. P. WELLS MOUNT VERNON

FRANKLIN, WASHINGTON, AND THE FRENCH SCULPTOR HOUDON

M. ANDRÉ MICHEL, curator at the Louvre, in Paris, recalls Houdon's visit to Washington, at Mt. Vernon, 120 years ago, which has an historical interest at this time.

Franklin was consulted by Thomas Jefferson concerning the choice of a sculptor for a proposed statue of Washington, and he recommended Houdon. The legislature of Virginia gave the order on the 22d of January, 1784, and Governor Harrison sent a portrait from which it was to be made, with an inscription written by James Madison, to be carved on the pedestal. Houdon was unwilling to make a statue except from the living model, and he found the inscription much too long. He compromised by accepting the inscription on condition of going to America. There he had difficulty in representing Washington in his uniform; the American critics of that day demanded Roman drapery, just as Canova made a nude Napoleon.

Houdon landed at Mount Vernon on the 2d of October, 1785, and was the guest of Washington "no more than a fortnight," as the latter wrote to Lafayette. During this time he took both measurements and casts for the future statue, and made an outline bust, which he exhibited at the Salon of 1787, with this description — "General Washington, done by the artist at the General's farm in Virginia."

THE PRINCIPLES OF PHOTOGRAPHY BRIEFLY STATED

PHIL M. RILEY

FOURTEENTH PAPER — INTERIORS BY FLASH-LIGHT

1. *Uses of Flash-lights.* — Last month I outlined quite fully the essential points in photographing interiors by daylight, but in these days of progress the worker is not entirely dependent upon old Sol's rays as formerly, and therefore the adaptability and advantages of flash-lights as illuminants ought not to be omitted in preparing this series of papers. In some respects flash-light is more desirable than daylight; it can be depended upon to shine when wanted and with the proper intensity; with it the shadows may be made to fall in any desired direction and it momentarily turns night into day. There are often rooms to be photographed where the light of day does not penetrate, or the interior may be large and but poorly lighted from one side. A full exposure for the dark side would result in overexposure near the windows, but a flash-light illuminates the dark side, giving a properly lighted exposure of the whole room, the daylight softening to quite an extent the harsh shadows which result from the use of a flash-light alone. It not infrequently happens that a room is lighted by a single window and that window must be included in the view. Of course it cannot be blocked out as was described last month, and a daylight exposure would, under ordinary circumstances, cause either underexposure of the room or overexposure of the window. Such a situation may be successfully handled by blocking out the window as suggested last month and making a flash-light exposure of the interior, after which the shutter should be closed, the screen removed from the window, and a second short exposure given for the view through the window. In this manner both interior and exterior are secured with proper exposure for both. There are times when articles of furniture or heavy hangings cast deep, unpleasant shadows in a view which would otherwise be a success. Recourse may at such times be had to the flash-light as produced by magnesium ribbon or flash sheets for local lighting. A few inches of magnesium ribbon or part of a flash sheet held with a pair of pliers over an old tin pail cover and burned behind some piece of furniture where it will be hidden from the lens will work wonders with deep shadows after a prolonged daylight exposure has been given to secure the general aspect of the room.

2. *Apparatus.* — Last month's instalment of this series gave a fair idea of the style of cameras and lenses best adapted to general interior photography, and nothing different is necessary for flash-light work. The only extras required are the materials for making the flash and some means of reflecting and diffusing it. These latter points will be taken up later, so let us first of all give our attention to the flash itself.

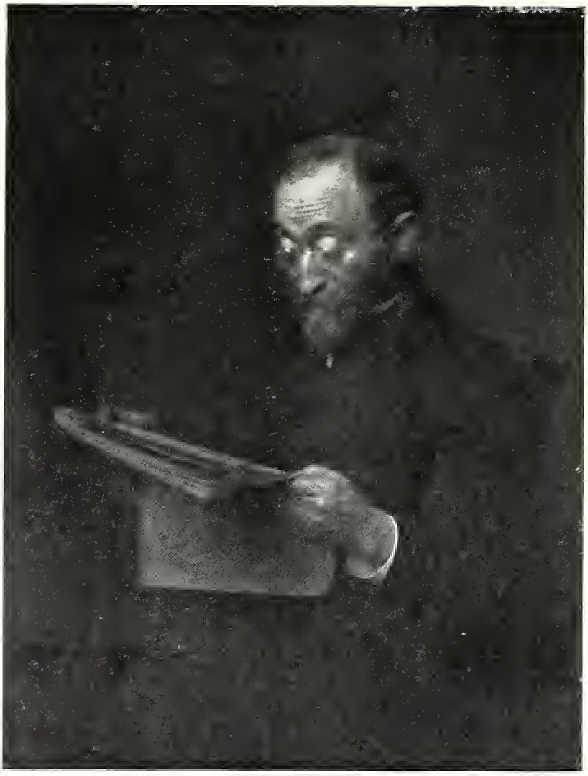
Three methods of making flashes present themselves, namely: flash lamps, flash cartridges, and flash sheets. Either flash sheets or flash lamps are preferable to cartridges, because there is much less danger in handling them. It is not an easy matter to choose a lamp, for the market is full of varieties — good, bad, and indifferent — and freak inventions range in price from one dollar to several hundred. But first of all it should be understood that there are two distinct classes of lamps. First may be mentioned storage, magazine or blow-through lamps, as they are called, for use with pure magnesium *only.* These are so constructed that the required amount of powder may be put into a reservoir and at the desired moment blown through an alcohol flame, thus making a flash ranging from two or three to ten seconds duration. *Compound explosive powders should never be used in such lamps, for an accident would surely result.* The advantages of lamps using pure magnesium are the cheapness of operation, safety, latitude of exposure and reliability. For interior work and all other subjects permitting an exposure up to ten seconds they are excellent. For groups, portraiture, and other subjects requiring more rapid exposures, compound flash powders of a more explosive nature must be used and an open lamp which does not confine the powder is required for safety. Mere contact with heat only is necessary for firing the entire charge instantaneously, and an alcohol flame and electricity are both considerably employed for the purpose. Portraiture by flash-light is a broad subject, worthy of a separate paper, and I shall, therefore, speak only of interior work with storage lamps for pure magnesium and with flash sheets. In selecting a lamp make sure that the combustion is complete and that the full amount of powder may be blown through in a very short space of time. For the advanced photographer who desires to make a specialty of flash-light work and desires a lamp adapted to both portraiture and interiors, there are several excellent outfits now on the market, having lamps mounted on a rigid folding standard so that the flash may be made at any desired height. These flash-light machines are also fitted with a diffusing screen, which may be adjusted in any position, either vertically or horizontally or at any angle, thus making it possible to secure a variety of pleasing lightings in portraiture as well as evenly diffused illumination for interior views. These outfits are a trifle expensive, however, and any ingenious amateur who is mechanically inclined can make an equipment which is quite as satisfactory to be used in conjunction with any lamp he may happen to own, or, if preferred, a machinist will make it at small cost.

The important qualities to be secured are sufficient reflection and diffusion of the flash to give a penetrating, yet evenly distributed illumination, and so something more than the lamp itself is needed. The amateur who makes a flash-light but seldom, can probably make some temporary arrangements, which will be satisfactory, but the worker who takes the subject more seriously will feel repaid for constructing a machine similar to the one described here.

3. *A Diffusing Screen Outfit.* — For making such a machine the first requisite is a folding metal stand such as is used as a support for music racks and phonograph horns, and which can be bought for about $1.50. The base only is required and consists of a hollow tube in which a sliding rod may be adjusted to any desired height and held there by means of a thumb screw.

FREDERIC BONNET, JR.

WINTER



LOUIS FABIAN BACHRACH PORTRAIT OF MY FATHER

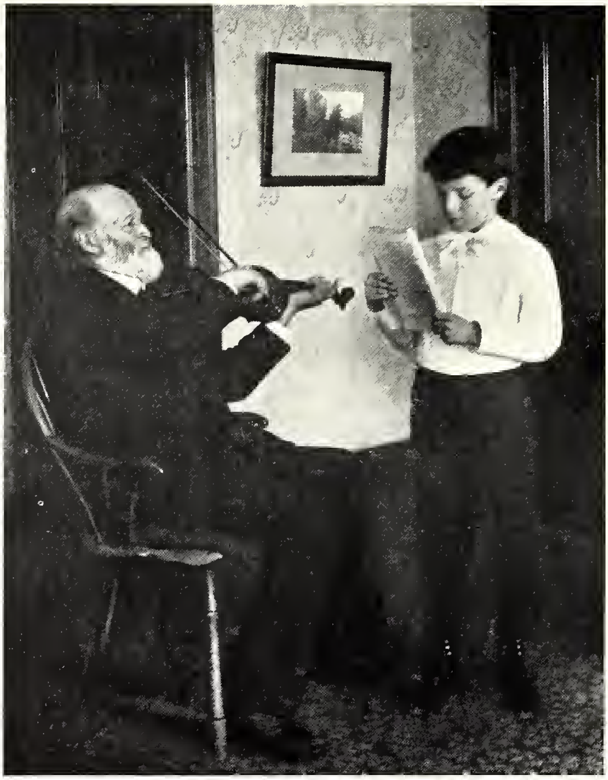
Dispensing with the sliding rod furnished with the stand, the worker is to have constructed a jointed rod better adapted to the purpose in view. Three circular steel rods 30 inches long are required of such a size as to slide within the hollow tube of the base. Now have pieces of brass tubing 4 inches long shrunk onto one end of two of the rods, so that they will extend beyond the end of the rods 2 inches, forming sockets which enable the two rods to be fitted together after the idea of a jointed fish pole.

Having fitted two rods in this way, they may be jointed together and inserted in the hollow tube of the base, forming the standard of the machine. Find the center of the third rod, and at that point have brazed at right angles another steel rod of the same diameter and three inches long. The three inch rod, when inserted in the upper socket of the standard, causes that standard to assume the shape of a letter T, which may be varied in height as desired. But before placing this rod in position, have two holes drilled through it vertically, one at each end, and as near the ends as possible. Each of these holes should be just the right size to admit a small screw hook, the screw part of which should be cut off, the smooth, straight end passed through each hole

DWIGHT A. DAVIS REVERY

and headed down on the upper side. From these hooks are to be suspended the reflecting and diffusing screens.

Next, the screens must be made. For the reflector 1½ yards of ordinary white curtain cloth 42 inches wide will be needed. Also get four curtain sticks 44 inches long, such as are always used at the bottom of curtains, and ten tiny screw eyes. The diffusing screen is to be made from 1½ yards of the best quality of tracing cloth 42 inches wide. This can be bought of any dealer in artist's or draftman's supplies, and should be sufficiently transparent to permit reading a newspaper placed under it. At this point you will require help from your sister, or, if necessary, from some other fellow's sister. Hems must be made on a sewing machine across both ends of the tracing and curtain cloth, through which the four sticks are to be passed. Put a screw eye in both ends of each stick and one at the middle of the top stick of each screen. Hook these screw eyes over the hooks on the T-shaped top of the standard, and the two screens are suspended in proper position. To prevent the curtains from swinging together, four ⅛ inch rods 31 inches long will be needed. Both ends of these should be bent at right angles about ⅝ of an inch from the ends, which should be passed through



H. P. FAIRFIELD THE SINGING LESSON

the screw eyes at the ends of the curtain sticks. This completes the machine with the exception of the lamp itself, which should be attached to the standard in such a way that it may be fastened to it at any desired height by means of a thumb screw. Explicit directions cannot be given, as various lamps differ so widely; but a little ingenuity on the part of the photographer will supply a method.

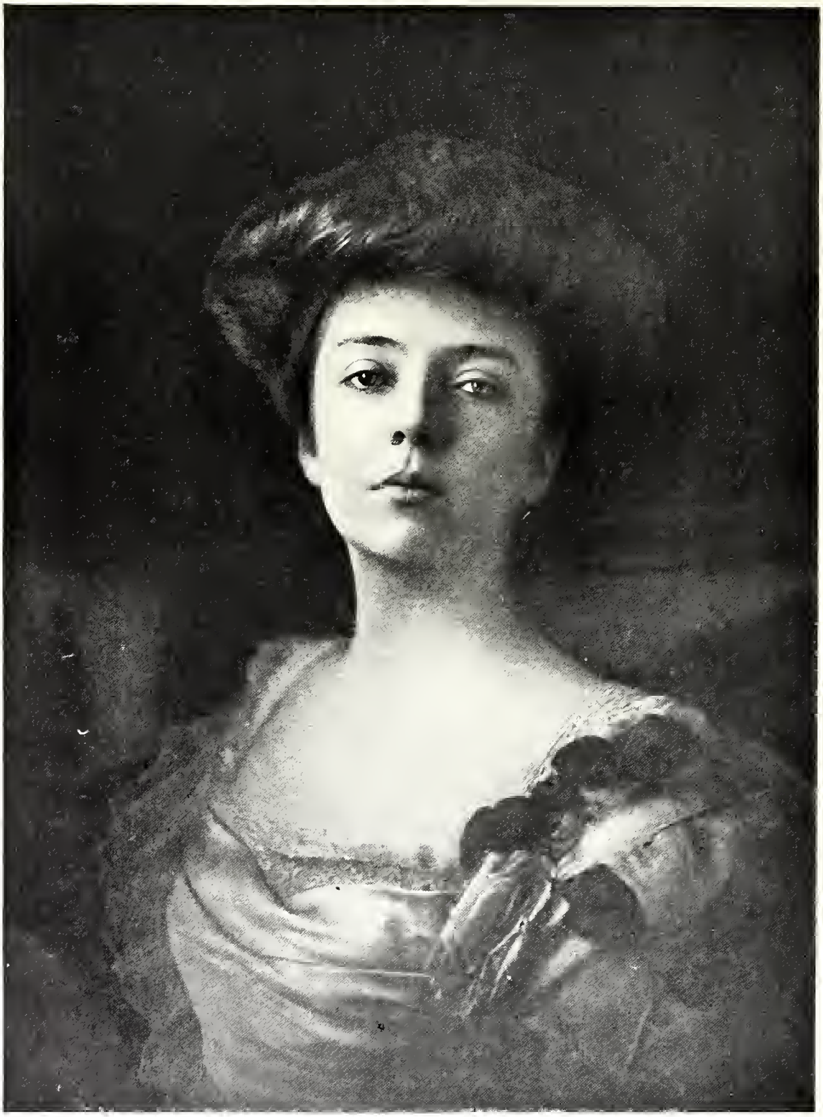
4. *Using the Outfit.* — With the diffusing screen outfit ready, the camera may be set up at the proper position and, if necessary, focused on a lighted candle placed at various points in the view. The screen and flash lamp should be placed slightly above, about two feet behind and three or four feet to the right or left of the camera, the distance depending upon the angle of light and the direction of the shadows desired. It is not necessary to extinguish the gas or electric lamps ordinarily used for lighting the room, for the few seconds' exposure of the plate just before the flash will assist materially in the general illumination, but the shutter should be closed immediately after the flash, or the smoke will fog the plate. Careful note should be taken that the flash is not reflected in framed pictures or mirrors.

HARRY N. DAVIS — BY THE OLD FISH WHARVES

5. *Strength of the Flash.* — As the amount of powder to be used depends upon the size of the interior and the character of its furnishings as well as the lens aperture, it is practically impossible to give explicit instructions. With lamps using pure magnesium the following table will give some approximate amounts which may be varied to suit individual circumstances: —

For 10 feet distance and light walls and hangings use 1 teaspoonful
" 10 " " " dark " " " " 1½ teaspoonfuls
" 15 " " " light " " " " 2 "
" 15 " " " dark " " " " 2½ "
" 20 " " " light " " " " 3 "
" 20 " " " dark " " " " 3½ "
" 25 " " " light " " " " 4 "
" 25 " " " dark " " " " 5 "

6. *Flash Sheets.* — Eastman's Flash Sheets furnish a simple and effectual method of producing flashes and, as they burn slowly compared with flash powder, they are much safer. For the average amateur there is probably nothing better on the market. The worker will find it so easy a matter to apply the use of these sheets to the diffusing screen outfit described above that it is unnecessary to go into details. Each package of the sheets contains explicit directions and an approximate idea of the number required under various conditions.



HENRY HAVELOCK PIERCE
MISS ALICE ROOSEVELT

'TWIXT RIVER AND SEA

AGNES LOCKHART HUGHES

'Twixt river and sea, a path of sand
  Stretched like a golden bar—
And the surf beat in with its ceaseless moan—
  Bearing echoes from worlds afar.
Then the great wild sea in impassioned tones
  Wooed the river of sapphire hue,
Bringing her gifts from the ocean's depths,
  And pearls for her gown of blue.
Oh! the path of sand,—where is it now,
  While the river and sea embrace?
Ah me! There are only the laughing waves,
  With their caps of jewels and lace.
But, wait—for the tide is ebbing fast,
  'Tis parting the river and sea,
While only a faint, dim line remains
  'Twixt time and eternity!
With a sobbing voice, the great sea cries,
  "Good-by!" to the river fair.
Then I looked again when the tide had turned—
  And the sand-bar still was there.

EDITORIAL DEPARTMENT

Unless the dauntless soul take part
In all their toil, there is no art,
No life, no wizardry, no power.
—BLISS CARMAN.

ART AND RELIGION

WE have always maintained that art, like religion, can only be rightly discerned by the spiritual minded. The essence of art, that without which it cannot be what it is, is only of the spirit. In a photographic masterpiece it is not the surface of the picture but the spirit of the artist who stands behind it that you must seek and find, to rightly appreciate and interpret the picture.

> "Back of the sound broods the silence, back of the gift stands the giving;
> Back of the canvas that throbs, the painter is hinted and hidden.
> Into the statue that breathes the soul of the sculptor is bidden.
> Great are the symbols of being, but that which is symboled is greater."

Beauty of music does not exist for the deaf, nor beauty of painting for the blind. Spontaneous appreciation of beauty in art can only come to those who have all their faculties, and a deep spiritual insight is not the least of them.

We are so engrossed in material things that the life of the spirit is clogged, diminished, and sometimes destroyed. Sensuality, gluttony, and a life of license suppresses the spirit, and the soul does not blossom. Harmony as expressed in color, form, and sound, is lost, when a man's soul is gone.

Beauty is born of the spirit, as happiness is born of life, because the spirit is keenly sensitive to and is pained by lack of harmony, just as life is deadened by pain.

RELIGION OF THE BEAUTIFUL

THIS religion of the beautiful is the worship of beauty, which, in its turn, is only a manifestation of the great Creator of the Universe. Many a sacrifice has been made since time began to Art, the expression of beauty, and to her mother Nature. The saints in this religion are the great artists of the world, the masters of poetry, music, painting, and sculpture. Their lives are beacon lights that form an ideal for us to emulate. Into this galaxy of greatness the photographer may one day come. His prayerbook is his camera. His pictures are his prayers. They tell of his love of art, in form and color and the sweep of beautiful lines. Through them he can praise, with the touch of genius, the God of Nature and all His works. This is the religion of the beautiful.

EXPRESSION RIGHT AND WRONG

THE divine gift of expression or the power to create beauty in pictures is second only to the power to feel, appreciate, and see beauty in the pictures of others. Yet there is a right and wrong expression which it is well to understand. The sensualist expresses himself through his senses. Only the animal side of his nature appears, because he believes only in what he can see, hear, taste, smell and feel. His life of license represses the life of the spirit, and *this is what it is to lose one's soul.* The intellectual man expresses himself through his mind and spirit. All that is highest and best in him is brought out by intelligent thought and his soul waxes strong through the exercise of its faculties. *This is what it is to save one's soul.*

This question of expression through the spirit or through the senses, through the soul or through the body, has been the pivotal point of all philosophies and the inspiration of all religions from the beginning of the world. Thoughtful men, for ages, have realized these truths and have taught the world, by precept and example, to forsake the life of the senses and devote themselves to the life of the spirit. Ascetics in religion fast and suffer, repress the faculties of the body that the spirit might have an opportunity to exercise and grow. St. Francis of Assisi, the artist saint of the Middle Ages, was a type of this form of expression. Probably between these two extremes — the license of the sensualist and the radical repression of the religious enthusiast — lies the truth, for most of us. There is, in many an artist photographer to-day, a hunger for beauty, just as there is a physical hunger. Beauty speaks to his spirit through his senses. If he could only reproduce through his camera and with the touch of genius what he feels, he would be supremely happy. Yet this form of life expression is born only of the spirit. And when you long to make masterpieces, not for the fame that might come, nor for wealth, but simply for the joy of doing it, you have the key that will loosen the fetters that bind you to mediocrity, and will give to your soul, maybe, the wings of genius.

REMOVAL NOTICE

WE desire to announce the removal of the PHOTO ERA offices to larger and more commodious quarters at 383 Boylston Street, Boston, Mass. Owing to the increased demands made upon us by our constantly growing business, we were forced to look for additional space. With our three publications — to wit: PHOTO ERA, the *American Journal of Photography*, the *Practical Photographer*, and *Art in Photography* — we are now located, as stated above, at 383 Boylston Street, in the heart of the new and fashionable Back Bay district of Boston, where we will be pleased to meet our patrons and subscribers at all times. The added facilities of our new offices and their central location will increase our usefulness. The new PHOTO ERA in its new home will continue to shine for all, especially those in the photographic world — a world that now seems fair and good, all sunshine, love and cheerfulness.

SPENCER B. HORD

THE retirement of Spencer B. Hord from the editorial chair of the *Times*, which he has filled so ably during the past three years, is a serious loss to photographic journalism. The ranks are fast thinning out; but our loss is the gain of the Eastman Kodak Co., which has already absorbed many of the brightest minds in the photographic world hereabouts.

Though a comparative new-comer to the field of journalism, he has quietly and without any flourish of trumpets brought the moribund *Times* up to be a dividend-paying proposition. The magnitude of this achievement can only be rightly appreciated by those who have struggled with fate along these same lines and have failed. We extend our heartiest congratulations to Brother Hord, and best wishes for his future success.

In fancy we can hear the former editor addressing the rich directors of the *Times* at a stockholder's meeting in his most dulcet tones,

> I want to go a-fishing, the fever's in my blood;
> And memories of other days roll o'er me in a flood:
> The meadow-lark's enticing call comes to me o'er the fields,
> And to its invitation my willing spirit yields.
>
> I want to go a-fishing — come, comrade, let us go;
> Let's cast aside the cares of life that weigh upon us so,
> And hie us to the woodland where the silver waters swish,
> And there we'll roam together, and rest, and dream, and fish.

Mr. Hord, as intimated above, has gone to Rochester to fish with L. B. Jones and the Eastman Kodak Co.

OUR FRONTISPIECE

THROUGH the courtesy of Mr. Frederic W. Snow of Boston, we present our readers, this month, with a remarkable picture as a frontispiece. The copy is from a photograph of Gilbert Stuart's famous painting of Washington, and was taken by the late Josiah Johnson Hawes, professional photographer of Boston, over fifty years ago. Mr. Snow vouches for the authenticity and age of the print, as it was a gift to him from Mr. Hawes some thirty years ago. And his statement is confirmed by Dr. E. S. Hawes of Brooklyn, the photographer's only son, who shows a fine print from the same negative on a silk handkerchief also made fifty years ago. As an example of the durability of the photographic print it is of priceless value to photographers and as a sample of the permanence of the early photographic processes it would be hard to beat. Rivaling even the carbon process, the tones and color values of this wonderful silver print, after the lapse of half a century, are in as excellent a state of preservation as the day it was made. And it is likely this print will endure for years to come, as long as the texture of the silk and the paper will hold together.

Compared with prints from negatives produced in accordance with the most approved up-to-date scientific methods, it is a marvel of technical achievement. Not only is the lens work without a flaw, *i.e.*, the picture is satisfactory as to linear accuracy, but the modeling of the face, the tonal gradations, the color values and even the texture of the canvas are all reproduced with extraordinary fidelity. In the combination of these essentials, none of the numerous reproductions, whether by engraving, etching, photography and even printing, is as satisfactory as this old-time photographic print by Josiah Hawes.

In the face of these facts, the question naturally arises wherein the color-sensitive plate, which is a comparatively recent discovery, is superior to the old-fashioned and discarded wet-plate process.

IMPORTANT NOTICE

BEGINNING with March 1st, our bi-monthly, *Art in Photography*, will be issued as a quarterly publication. More and better pictures will be given, text matter will be introduced and the subscription price will be reduced to $5.00 a year. It will be published as the official organ of the American Federation of Photographic Clubs.

NEW VARIABLE STARS

FROM the Harvard College Observatory comes Circular 107, which announces the discovery of twenty-five new variable stars. A recent examination, by Miss Henrietta S. Leavitt, of plates taken with the 24-inch Bruce Telescope, has led to the discovery of a number of new variable stars. The six variables in Orion were discovered during the selection of comparison stars for the pair of interesting variables, H 797 and H 798, near *sigma* Orionis. The discovery of the three variables in Virgo was made by superposing plates in the manner described in Circular 79. Six excellent plates, having exposures of about two hours, were used. The approximate centers of these plates are R. A. = $13^h\ 54^m$, Dec. = $-\ 10^\circ.4$ (1900). The known variable, RR Virginis, was rediscovered at the same time. The sixteen variables in Cygnus are in the region of the great spiral nebula, whose most conspicuous portions are catalogued as N. G. C. 6960 and N. G. C. 6992. Together with the known variable UX Cygni, they were found by superposing five plates having exposures of from two to four hours. Of these, three have centers near R. A. = $20^h\ 45^m$, Dec. = $+\ 30^\circ.5$, while those of the other two are near R. A. = $20^h\ 50^m$, Dec. = $+\ 32^\circ.5$. All the plates are of extremely fine quality, and probably the images of at least 200,000 stars were clearly seen and compared.

The positions of the new variables in the Small Magellanic Cloud, as announced in Circular 96, have been measured, and observations of their brightness are in progress, with a view to determining their light curves. New variables are occasionally found in the course of this study, the number discovered in this region up to the present time being 970. A series of excellent plates covering the Large Magellanic Cloud has been received.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the PHOTO ERA.

PROCRUSTES was a man of one idea. He had certain rules which he thought all men should conform to, and if they did not, they should be made to do so. For instance, when travelers stopped with him over night, he used to put them to sleep in his bed. If they were too short for the bed, he stretched them out until they fitted it, and if they were too long, he solved the problem by promptly lopping off the redundant parts.

Procrustes' bed has passed into a proverb, and, judging by examples which come under our observation now and then, one might believe that he had followers even in this age.

Looking over a collection of prints a short time ago, I was reminded of Procrustes' methods, for though there were some very excellent pictures, — far above the medium, — every picture was printed on the same kind of paper and mounted in the same way; landscapes, marines, portraits, etc.

The paper used was a gaslight paper, and instead of selecting from the many kinds of paper which come under the head of gaslight papers, those adapted to the different classes of negatives, one brand had been chosen and used for all of the prints. And there was such a lot of them, too.

But suppose one does use gaslight paper exclusively, there is no reason why he should not select the paper best adapted to the quality of his negative. The gaslight papers are classified as Regular and Special, the Regular being a paper that requires a longer exposure and develops very quickly, while the Special paper prints very quickly and develops slowly.

Now suppose one has negatives with fine detail, which he desires to have brought out in the print. Then the paper best adapted to such a negative is the glossy gaslight paper which reproduces the finest detail faithfully. It is an excellent paper for pictures for reproduction.

For a negative that has little contrast the carbon gaslight will give the best results, and is intended specially for thin and undertimed negatives. The surface of the paper is smooth and without gloss. If one has thin negatives where broad effects are desired, the rough carbon will be found best for the purpose. The paper is rather rough, and of very pleasing quality.

The Special papers are designed to produce soft results from harsh negatives, that is, from negatives having too much contrast. Special carbon will be found just the paper for negatives of good contrast, but not too pronounced. The Special portrait is a fine paper for negatives with strong high lights and deep shadows. It equalizes the contrast and makes a pleasing print. This paper is made specially for portrait work, but will be found a very excellent paper for landscape work.

There are two grades of rough paper, one being of ordinary weight and the other very heavy. The rough gaslight will be found to be just the thing for large negatives, where one does not care for fine detail in the print. One should never use rough paper for small negatives. The result is never agreeable. The heavy, rough paper is specially good for sketchy negatives, and the weight is such that no mount is required. The print may be made through a cut-out, thus insuring an even edge all round the picture and with a good margin one has the effect of a mounted picture.

In choosing a paper for a print, judge your negative by its lack of or its overplus of contrast.

The developer which gives the best general satisfaction is the metol-hydroquinone. The paper makers give the following formula: —

Water	20 ounces
Metol	14 grains
Sulphite of sodium	1 ounce
Hydroquinone	60 grains
Carbonate of sodium, dessicated	400 grains

To develop, add one drop of potassium bromide, — ten per cent solution, — to each ounce of the developer.

This formula is for the regular paper. If Special is used, take an ounce of water to every ounce of the developer.

In regard to the printing, an ordinary kerosene lamp of good power will be found more satisfactory than a gas jet. Do not hold the printing frame in the hand during the printing process. A simple arrangement is to place a wooden box, — a starch box is about the right size, — eight inches away from the lamp, with the lamp so placed that the flame comes two inches above the level of the box. Set the printing frame on the box, and time the exposure by a watch hung near so that one may note the time without turning about. It requires from twenty seconds to a minute and a half to print, the time being regulated by the density of the negative and the kind of paper used.

When one has a quantity of prints to make, it simplifies matters if the negatives are selected and each class put by itself. Next, the papers are made ready, counting out the number of sheets required and adding a few for possible failures. To hasten the process one can print and develop at one and the same time. Having the box arranged as described and the watch within direct range of the vision, place a screen on the other side of the lamp and within its shadow set the tray of developer. While one picture is printing another is developing, and by glancing at the watch, one can remove the frame at the critical moment, lay it face down, and finish the developing. When the developed print is taken from the tray, it must be thoroughly washed, for in the washing out of the developer depends the unspotted print. Another frame is made ready, and while the printing is going on, the print just made is developed, and so throughout the printing.

The printing and developing of prints at once has several advantages. One sees at a glance if the print is of the right quality, and, if not, another, a duplicate, can be made then and there. If the printing is done first and the developing afterward, if there are defective prints, it means the hunting up of those particular negatives and additional printing. Another advantage is that prints developed immediately are far better than when developing is delayed for several days.

Gaslight papers are a great boon to the amateur. They make him independent of sunlight, and for many kinds of work are to be preferred to the printing-out papers.

Where time is at a premium, — and isn't it with all of us? — gaslight papers make it possible for busy people to pursue the avocation of photography, — especially the printing, — with despatch.

PHOTOGRAPHIC SKETCHES

At a recent exhibition of photographs some very clever pictures were shown, which looked as if they were sketches instead of photographs, or made by any photographic process. The principal lines were bold, but the detail was suggested rather than portrayed, and the work was well done, showing that the clever amateur was an artist as well as a photographer. The pictures elicited a great deal of comment, and the "how" was demanded with such persistency, that the secret, — which was no secret at all, — was divulged. The prints had been made in the ordinary way and then converted into line drawings, by carefully going over the portions of the picture which were to be retained, with a fine pen and with water-proof ink. The print was then subjected to a reducing process which eliminated all of the detail, leaving simply the lines made by the ink.

Any good reducing solution will remove the coloring of the picture, perhaps the best for this purpose being ferricyanide of potassium. Make the solution of 10 oz. of water; hyposulphite of soda, 2 oz.; and ferricyanide of potassium, 25 grains.

Another reducer is made of water, 10 oz.; bichloride of mercury, 100 grains; and salt, 40 grains. After the picture has been reduced, rinse in hypo solution for two or three minutes (1 oz. hypo to 16 of water), then wash thoroughly.

In using either ferricyanide of potassium or bichloride of mercury remember that both are extremely poisonous.

TWENTIETH CENTURY MAGIC

The heavens above us and the earth beneath us have been compelled to yield up their secrets to that great wonder-working power, — photography.

Photography reveals to the searcher of the heavens what was before invisible even with the strongest telescope. For example: an astronomer without the aid of photography made a chart of the group of the Pleiades. The work occupied him six years, and his chart showed six hundred stars. A camera turned toward this same cluster took two hours to make an exposure, and the sensitive plate showed in this self-same group no less than two thousand, two hundred stars, — sixteen hundred more than the astronomer was able to discover in six years, though using for his work a giant refractor.

The explanation of this is that the eye sees at once all that it is capable of seeing, and a persistent effort to see beyond the vision tires the eye and lessens its sensitiveness to impressions. The photographic plate knows no fatigue. It receives the light and allows it to pile up or accumulate. If the light of a distant star does not affect the sensitive plate at once it does so after a certain length of time,— it may be minutes and it may be hours, — and in time the image of the star will impress itself on the plate. Sometimes an exposure is made of a certain portion of the heavens on the same plate for several nights in succession.

The camera is not useful alone in discovering new stars, but also the presence of elements, for it was through photography that Professor Draper discovered oxygen in the sun.

Cable messages are recorded by photography. A fine wire is stretched vertically between the poles of an electro magnet. The currents of the cable passing through this wire cause it to be deflected now toward the north and now toward the south pole of the magnet, according to the directions of the current. The shadow of this wire projected across a narrow slit falls as a black spot on a strip of sensitive paper. The paper travels at a fixed rate and, after the message has been received, the strip of paper on which has been impressed the picture of the moving shadow is developed and becomes the handwriting of the instrument.

The curvature of the earth is shown by means of photography. The great peak of Teneriffe, which rises to a height of some thirteen thousand feet above the level of the ocean and almost directly from its surface, makes a magnificent view-point for scientific observations. Professor Porter of London, England, has made many observations from this lofty peak, and exhibits several photographs taken from the apex, each of which shows plainly the curvature of the horizon line.

The plutonic exhibits of Mother Earth have been made the subject of scientific observation, the camera being the record maker. One scientist has himself made twenty-five or more pictures of volcanoes in eruption, besides many pictures of lava, cataracts, etc.

The photographic rifle is an ingenious toy. A tiny camera is affixed to the barrel and, when a shot is fired, the action exposes a plate. When this is developed, the hunter knows whether or not the animal or bird at which he fired was hit. Another camera gun, which commends itself to the Humane Society, is built not for warfare nor the destruction of life, but as a means for solving the problem of aerial flight of birds.

Photography is used to obtain the correct measurement of things which without its aid could not well be accurately determined. By means of photography the height obtained by balloons is ascertained; the force, direction, and velocity of the wind, and of all kinds of projectiles; the swiftness of river currents, and the length, height, and duration of ocean waves; and the speed of all kinds of wheels used in machinery, including the fly-wheel, are measured by photography; and even the speed of the lightning flash is calculated by means of a vibrating lens and the multiple image which it makes on the sensitive plate.

Explorers use cameras extensively and make "fore and aft" pictures of their routes, so that they have a complete pictorial record of their journeys. Engineers in virgin country make hundreds of pictures of the wilderness they are breaking a path through, and thus the next comer has a broad and well-marked pathway, instead of the "blazed trail" of the hunter.

One might fill pages with the wonder-working powers of the camera, which of all the instruments brought into use during the last century holds the first rank as the most useful and the one that could least be spared.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00.
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts, or other photographic materials advertised by us; or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in THE ROUND ROBIN GUILD, with all its benefits, — among which the correspondence privilege probably stands first, — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is limited to subscribers to PHOTO ERA.

SUBJECTS FOR COMPETITION

January. — "Winter Views." Closes February. 28.

February. — "Reflections." Closes March 31.

March. — "Trades." Pictures entered in this competition should be illustrative of the various employments, such as blacksmithing, shoemaking, tailoring, and the like. Closes April 30.

April. — "Portraiture." Closes May 31.

May. — "Mother and Child Pictures.' Closes June 30.

June. — "Garden Scenes." Closes July 31.

SYNDICATING PHOTOGRAPHS

A LITERARY syndicate is a company that buys manuscripts and then sells the same article to several different papers. The price paid is less than that paid for the original article, but by selling it to several different papers the syndicate makes money in the end, the aggregate amounting to a good round sum.

If any amateur has a collection of fine negatives he may syndicate prints from them by making up sets of perhaps half a dozen in a set and sending these sets to say ten or twelve papers published in as many different States or in cities widely separated. In sending the pictures one states that they are offered to other papers, giving the names of same, and that they must not be published before a certain date, which he mentions in his letter. The pictures must all be sent out at one and the same time, so that they may be used about the same date. If in addition to the pictures the amateur can add descriptive matter, his pictures will bring more money, and his copy need not necessarily be fine writing. He may simply give an explanation or description of the pictures, enough to furnish one of the staff editors basis for an article of which the pictures are the principal feature.

If one has been fortunate enough to make good nature studies of wild animals, he will find no difficulty in disposing of his prints to either papers or magazines. In these days we seem to desire to get closer and closer to nature and to learn all the secrets which for centuries she has guarded so carefully.

"The ants are a people not strong, yet they prepare their meat in the summer;

"The conies are but a feeble folk, yet make they their houses in the rocks;

"The locusts have no king, yet go they forth all of them by bands;

"The spider taketh hold with her hands, and is in king's palaces."

Thus many centuries ago said the wise man, and to-day we are just beginning the lessons in the science of which he was a past master.

ANSWERS TO CORRESPONDENTS

Carlos F. — Your plates are evidently stained with hypo. Hypo that has been used repeatedly becomes charged with the unused silver salts which oxidize, discoloring the hypo solution and staining the negative which has been fixed in it. Hypo is so very cheap that it is wisdom to use fresh hypo solution, rather than to risk spoiling a negative by fixing in dirty hypo.

S. D. Fenton. — Yes; you can use the lens with which you made the negative to make an enlargement from the same. You will find in the Photo Era for February, 1902, an article on enlargements. A copy will be sent you on receipt of 15 cents. We shall during the year give an article on making enlargements for the benefit of our new members, who have not access to the back numbers of the magazine.

Helen F. — You will find a panorama camera a very useful addition to your out-of-door camera outfit. The trouble with the beginner in using this style of camera is that one forgets that the angle is very wide and often secures two pictures on one plate; that is, he has two or more conspicuous objects at different points, and instead of seeing the pictures as a whole, the observer must look first at one point and then at the other. It is a trick of the eyes to see first the prominent object while the rest of the picture falls naturally into line. So be careful in making panorama pictures to have but one prominent object, and that well to one side of the center, and to have something at the extreme other side, like distant trees perhaps, to preserve the balance or symmetry of the picture.

Morris H. P. — Yes, indeed; you can easily learn to sensitize your own papers. The one point to be observed is, that the solution is applied quickly and evenly. If applied with a brush, use a wide one made of camel's hair, and apply the solution first one way of the paper, then the other. If floated on the solution, put the paper in face down, turn it at once, and if there are air-bubbles, break them with the tip of the finger, turn again in the solution, and float for two minutes, drain, and pin up to dry. One had better begin with blue-prints first, as both solution and paper are the cheapest used.

Kate M. — You will find the following solution of acetate of soda and gold an excellent one for Aristo paper or for plain silver paper. Chloride of gold, 1 grain; acetate of soda, 30 grains; water, 10 oz. Dissolve the gold in 2 oz. of water and neutralize with a few drops of chalk solution. Dissolve the soda in the remaining 8 oz. of water, and add the gold solution. This bath keeps for a long time and works best when it is old. It ought to stand at least forty-eight hours after mixing before using. See answer to F. D. S. in regard to making gold solution.

F. D. S. — To make up a gold solution, take 15 grains of chloride of gold and sodium and dissolve in 7½ oz. of water. This is a stock solution, and is in the proportion of 2 grains of gold to each ounce of water. When making up a solution that calls for 1 grain of gold, use ½ oz. of the stock solution and ½ oz. less of water than the formula calls for; if 2 grains, then use 1 oz., etc.

A. H. R. — You will find hydroquinone with metol the most satisfactory developer for gaslight papers. It gives clear, soft blacks, and does not discolor the paper. Use plenty of acid hypo for fixing, and move the prints in the bath so as to give free access to the entire surface of the prints.

FREDERICK O. L. — Your underexposed negative was doubtless due to the fact that you used too small a diaphragm. The size of the diaphragm used affects the rapidity of the lens very materially. The smaller the diaphragm the longer must be the exposure of the plate.

CLARA T. — Carbon and platinum are both considered permanent prints, the carbon being practically so, and the platinotype quite so when properly developed and fixed. One must take care in making platinotypes that enough acid is used to clear the whites, and that the prints are well washed to remove all traces of the acid. Such precaution will result in permanent prints.

ROBERT WARNER. — In developing Velox prints more satisfactory results may be obtained by using a little slower developer than that recommended in the directions. With a slower developer one does not run the risk of getting woolly blacks with no detail.

G. H. E. — To make a saturated solution dissolve as much of the chemical salt in the water as can be taken up. Use enough so that when cleared by settling, there will be a deposit of the salt at the bottom of the bottle. The clear liquid is the saturated solution.

FLORA C. — If you will refer to the December PHOTO ERA for 1902, you will find a number of suggestions for making calendars. In making calendars after the first of the year, — that is, if the calendar is designed for a friend, — it is a pretty idea to have the date begin with the friend's birthday and end with it, thus making a year from birthday to birthday, instead of from the first of January to first of following January.

L. N. — Use the blue-print solution for coating porcelain plates. It is very easily done, and the prints are made in the same way as a blue-print. To time the length of exposure, make first a print on blue-print paper, and expose the porcelain plate under the negative the length of time required to make a good blue-print on the paper. Formulas for making blue-prints will be found in the back numbers of the PHOTO ERA, as the directions have been given several times.

CORA D. — The trouble with your self-toned platinum prints is doubtless due to too careless handling. Do not touch the fingers to the surface of the print and lift print by the extreme edges. A solution of acetic acid will remove spots from the prints.

GRACE L. H. — See the April number of the PHOTO ERA for 1905 for suggestions on portrait making with the camera. You will find that if you do not use so sharp a focus as you have in the prints enclosed that your work will be more artistic. The proper way to secure this effect is to focus first sharply, then turn the lens out just a trifle; not enough to blur, but just enough to blend the shadows.

CARL W. — Yes; you could make a focusing glass which would answer very well. Take two spoiled plates, sprinkle one with fine emery and moisten it with water. Rub this glass down with the other, using a circular motion. If not ground enough, renew the emery and grind again.

MISS F. M. ROBERTS. — No; it is not necessary to be a subscriber to the PHOTO ERA in order to be eligible for membership in the Round Robin Guild. It is, however, a great advantage to the amateur to have the PHOTO ERA regularly, as one is thus kept in touch with the work and has an opportunity to see what pictures take prizes. Any amateur may become a member of the Round Robin Guild by sending name and address to the Guild secretary.

MORRIS FREDERICK. — To turn blue-prints to brown, wash and dry the print, then place in a solution of ammonia made of 1½ oz. of stronger ammonia and 12 oz. of water until it has nearly lost its color. Rinse and place in a solution of tannic acid 154 grains and water 7½ oz. Leave in this bath until the required color is secured, then wash thoroughly and dry.

The Crucible

TO TEST WATER

The quality of water used in making photographic solutions is a matter of much more importance than is generally recognized, for many troubles in negative and print making may be traced to the use of impure water. Distilled water is preferable under all circumstances and can be obtained from a druggist at a cost not worthy of consideration.

Practically speaking, all tap or well water contains some impurities. It is of importance for the practical man to know what these are, because some common impurities may be disregarded during many of our ordinary photographic processes, and the water when boiled, allowed to cool and filter, is quite satisfactory.

Other impurities may give rise to defects in our negatives or prints. In making the following tests, all the reagents, *i.e.*, testing solutions, should be prepared with the purest chemicals dissolved in distilled water, otherwise we might be led to suppose the presence of an impurity in the water supply which was really in the materials used in testing. The test should be made by adding a few drops of the reagent to some of the water contained in a perfectly clean beaker or tumbler. The mixture should then be stirred with a glass rod and examined by looking through it at a piece of clean white paper in daylight. Each test is made with a fresh lot of water.

(1) Add ten or twenty drops of a ten per cent solution of silver nitrate. A white cloudiness or milkiness indicates the presence of one or more chlorides. When these are present the water is not suitable for making solutions containing silver nitrate, *e.g.*, a wet collodion sensitizing bath, etc.

(2) Add a few drops of barium chloride solution. A white precipitate or milkiness indicates the presence of sulphates, usually of calcium or magnesium. The latter has a softening and dissolving action on gelatine. But usually the quantity present is so small that this action may be disregarded.

(3) Take a large-sized test-tube. Half fill with tap water. Acidify with dilute sulphuric acid. Tilt the tube at about forty-five degrees. Then slowly pour down the sloping side of the tube a freshly made saturated solution of iron protosulphate (ferrous-sulphate). Where the two solutions are in contact in the tube a dark ring or layer is formed when a nitrate is present.

(4) Again, take half a test-tube of the tap water and acidify with sulphuric acid. Then add two or three drops of five per cent solution of potassium iodide. Now add a small bit of white starch, no larger than a small pea. Crush with the glass rod and mix well in the water. Now bring the solution slowly to the boiling point. A blue coloration points to the presence of a nitrite.

Nitrates and nitrites lead one to suspect the presence of organic matter, which is never desirable in water for photographic purposes.

(5) Take half a tumbler of water and acidify with hydrochloric acid. Pass sulphuretted hydrogen gas into the solution. A darkening or discoloration points to lead, copper, mercury, or tin. These impurities may be derived from the pipes or storage cisterns, or may be in the well. Their presence is undesirable, especially for toning and similar delicate operations.

(6) Take a fresh lot of water and acidify with nitric acid, then add a little potassium or ammonium sulphocyanide solution. A red

coloration points to the presence of iron. This, again, is an undesirable impurity.

(7) To a tumbler full of the water add a solution of ammonium (or potassium) oxalate. A milkiness, or white precipitate, indicates the probable presence of calcium (lime carbonate, etc.).

(8) To a pint or so of the water add silver nitrate slowly until any more precipitate ceases to be formed. Stir well and allow the precipitate to settle. Carefully decant or filter off the clear part into a white glass bottle and add a few more drops of silver nitrate solution which should now produce no visible change. Set the bottle where it will be exposed to strong daylight. If the solution darkens on exposure to light, organic matter may be suspected.

(9) Take a fresh quantity of water, add a few drops of sulphuric acid, stir well and then enough potassium permanganate to show a very pale pink color. If this color changes to yellow or brown, or goes markedly lighter, organic matter is probably present.

(10) Prepare a small quantity of Nessler's test as follows: to 2½ oz. water add 60 grains of mercuric chloride finely powdered, and heat gently. Now, slowly add a ten per cent solution of potassium iodide until the precipitate first formed is redissolved on shaking. Prepare a one-in-eight solution of caustic potash, *i.e.*, 3 drams potash in 3 oz. water. Mix equal quantities of this mercuric iodide and caustic potash solutions. Shake and filter for use. A few drops of Nessler's test added to an ounce or so of water will show a yellow or brown coloration if ammonia be present.

Water from wells or springs in the vicinity of farm yards, burial grounds, gardens, etc., is often contaminated with organic matter or ammonia.

DRYING CARBON TISSUE

It is a well-known fact that a plate immersed for a few minutes in alcohol after washing will dry in about twenty minutes. Only a few days ago a fellow-worker told us that he used the same method in drying carbon tissue with excellent results, especially in damp weather, when the process is usually a source of much trouble and inconvenience. It is certainly a fact that under this treatment the tissue is less inclined to curl, and, because of faster drying, the prints will not lose contrast, as is sometimes the case.

DEVELOPER FOR LINE DRAWINGS

Many photographers occasionally desire to copy line drawings in black and white, and in this class of work a developer which will give a negative productive of decided soot and whitewash qualities is desirable. An excellent formula is as follows: —

Hydroquinone	28	grains
Sodium sulphite	280	"
Formalin	32	"
Water	4	ounces

GLYCERINE TO PREVENT CURLING OF PRINTS

Curling of bromide and gaslight prints may be obviated in a large measure by the use of a glycerine solution. Wash the prints as usual after fixing and then immerse them for five minutes in a solution containing ¼ oz. of glycerine to 16 oz. of water, then dry as usual. The solution may be used several times.

RESTORING FOGGED PLATES

Plates which have been accidentally fogged may be restored by soaking them in a solution of potassium bromide and chromic acid. Make a solution of 15 grains of chromic acid, 30 grains of bromide of potassium, and 5 oz. of water. Soak the plates in this solution for five minutes, wash thoroughly and set up to dry. Of course the process must be conducted in the dark room, the plates dried in the dark, and in a place where there is no dust.

EXPOSURE WITH A PINHOLE

The easiest way to explain matters will be to consider an imaginary case. Suppose that with a certain light, subject, and plate an exposure of 1-20 second with f. 16 is found satisfactory, and that it is required to make a second exposure (same speed of plate, light, and subject) with a pinhole. To estimate an equivalent exposure we now need know only the diameter of the pinhole and its distance from the plate. Let us suppose the hole to be 1-40 of an inch used 12 inches from the plate. Now, 1-40 inch 12 inches away gives us the f. value of the pinhole of f. 12 x 40 or f. 480. The equivalent exposures of the lens (f. 16) and the pinhole (f. 480) are in the proportion of the square of 16 to the square of 480, or as 16 x 16 to 480 x 480. We must therefore multiply 1-20 by 480 x 480, and divide the result by 16 x 16; in other words, simplify the fraction

$$\frac{1 \times 480 \times 480}{20 \times 16 \times 16} \text{ viz., 45 seconds.}$$

One more example will make matters quite clear. The lens exposure is 1-100 sec. with f. 8. Required the equivalent exposure with a 1-50 inch hole at 6 inches from the plate.

Multiply 1-100 sec. by 300 x 300, and divide by 8 x 8, or simplify the fraction

$$\frac{1 \times 300 \times 300}{100 \times 8 \times 8} \text{ say, 14 sec. (approx.)}$$

PRINT STICKING TO A NEGATIVE

If an unvarnished negative is printed in damp weather, or the paper used is not quite dry, or the negative is not quite dry, or if the printing frame gets rain spotted, or if the operator has been blowing on the paper to get it to rise up from the negative, and a tiny drop of saliva has got on the film, the print may stick to the gelatine film. If this is allowed to remain, not only is the print spoiled, but the negative will very probably be badly stained as well, from the silver of the paper affecting the gelatine. Should this accident happen, the best thing to do is to tear away the paper as carefully as possible; then put the plate in a clean hypo fixing bath until the paper gets quite soft, when it may be removed by rubbing with the finger tip. The plate should be returned to the fixing bath for another half hour and then well washed.

TEMPERATURE NOTES

	Deg. Fahr.
Negatives, Developing, Fixing, Washing	60– 65
Bromide Prints, Developing, Fixing, Washing	60– 65
P. O. P. Toning, Fixing, Washing	60– 65
Gum-bichromate. Sensitizing	60– 70
Gum-bichromate. Developing	60–100
Ozotype. Sensitizing, Pigmenting	60– 70
Ozotype. Developing	110–120
Gum-ozotype. Developing	60– 70
Chromatype. Sensitizing and Drying	55– 60
Chromatype. First Washing	75– 80
Chromatype. Developing. Black or red	95–120
Chromatype. Developing. Brown	100–125
Chromatype. Developing. Green	105–130
Chromatype. Developing. Sepia	110–140
Artigue. Sensitizing	55– 65
Artigue. Developing	70– 80
Carbon Process. Sensitizing, Transferring	50– 60
Carbon Process. Developing (underexposure)	95
Carbon Process. Developing (correct exposure)	105–115
Carbon Process. Developing (overexposure)	120–160
Rough Transfer (10 seconds 105–115 then 65)	
Double Transfer. Final Support 85, 5 minutes, then 65	
Auto-pastel. Sensitizing	60– 65
Auto-pastel. Developing	120–150
Carbon Stripping Films. Sensitizing	60– 65
Carbon Stripping Films. Developing	90–110
Carbon Stripping Films. Transferring	65– 75
Platinotype "Cold Bath." Developing normal tones	70– 80
Platinotype "Cold Bath." Developing warm tones,	90–100
Platinotype "Hot Bath." Developing overexposure,	100–120
Platinotype "Hot Bath." Developing normal exposure	120–130
Platinotype "Hot Bath." Developing underexposure	150–180

DEVELOPING IN COLD WEATHER

Successful developing in a cold dark room in winter is difficult. The image is hard and the half-tones are often wanting, even if the exposure and the composition of the baths are correct. As the amateur's dark room is generally in an out-of-the-way corner of the house, where heating and ventilation are neglected, ill success is a foregone result. For successful developing the air and the baths must have a temperature of at least 60 degrees.

REDUCING P. O. P.

It often occurs that P. O. P. prints are carried much too far and are therefore too dark. If this is the case, they may be reduced quite satisfactorily in the following solution :—

Uranium Nitrate	40 grains
Hypo	1 ounce
Water	4 ounces

William H. Huse and William E. Burbank, the judges appointed by Secretary Fred T. Irwin of the Manchester Camera Club, to determine the prize winners in the annual photographic competition of the New England Photographic Exchange, has made the following awards:

Landscape. — First prize, "The Pasture," by Mr. Bond of the Brockton Camera Club; second prize, "Griffin's Lane," George I. Ayer, Manchester Camera Club.

Marine. — First prize, "Steamer Empress arriving at Baker's Island," F. C. Wainwright, Dartmouth Camera Club of Lawrence, Mass.; second prize, "On the Maine Coast," J. E. Currier, Manchester Camera Club.

Genre. — First prize, "The Gleaner," C. W. Merrill, Providence Camera Club; second prize, "Preparing for a Romp," Henry Popp, Albany, N. Y., Camera Club.

Winter Scenes. — First prize, "A March Morning in the Adirondacks," M. H. Rochester, Albany Camera Club.

Still Life. — First prize, "Flower Study," A. T. Johnson, Manchester Camera Club; second prize, "Greys," L. A. Whittier, Manchester Camera Club.

Interiors. — First prize, "A Colonial Interior," Will C. Eddy, Mystic Camera Club, Medford, Mass.; second prize, "Chapel of the Convent of the Sacred Heart," Augustus Pruyn, Albany Camera Club.

The New England Photographic Exchange is composed of the Manchester Camera Club, the Providence Camera Club, the Photographic Society of New Haven, Conn.; the New Britain, Conn., Camera Club, the Albany, N. Y., Camera Club, the Dartmouth Camera Club of Lawrence, Mass., and the Brockton, Mass., Camera Club. These clubs exchange slides and views, and give exhibitions of the work done by their own and each other's members. The Manchester Club has charge of the exchange work, the duties devolving upon the secretary.

Each year the several clubs send to the secretary of the club in charge of the exchange what they consider their best work in the several classes. These specimens of work constitute a competitive field. Prizes are awarded in each class by judges chosen by the exchange secretary.

In behalf of the C. P. Goerz Optical Works we are pleased to announce that the Goerz Catalogue Cover Competition, which closed recently, was a complete success, and has been fruitful in interesting results.

The first prize picture by Mr. Edward J. Steichen is a wonderfully beautiful and interesting composition, which will be published in poster form simultaneously with its appearance on the cover of the next general catalogue of the Goerz lenses.

The pictures sent in were judged by Messrs. Alphonse Mucha, Alfred Stieglitz, and Joseph T. Keiley. Upon their recommendation the following awards were made: —

First prize: Mr. Edward J. Steichen, New York.

Second prize: Mrs. Laura Adams Armer, California.

Third prize: Mrs. Annie Brigham, California.

The judges further decided that the remaining competitors had not adequately considered the conditions of paragraph 11 of the rules governing the competition.

The balance of the prizes was therefore awarded by the C. P. Goerz Optical Works with the following results: —

Fourth prize: Miss Katherine Bingham, Vermont.

Fifth prize: Mr. H. H. Pierce, Massachusetts.

Sixth prize: Mr. F. E. Bronson, New York.

Seventh prize: Mr. A. W. Engell, Illinois.

Eighth prize: Mr. R. H. Cunan, New York.

We have received from K. Schwier, Weimar, the "Deutscher Photographen Kalendar, 1906," in two volumes, filled with formulas, recipes, descriptions of processes, etc. The condensed almanac in the front makes this volume a handy encyclopædia as well as a photographic reference book. There are 535 formulas, including the latest achievements in color work. Bound in dark leather, the volume makes an attractive pocket volume of absolutely indispensable information. Orders will be received by us and forwarded to Germany. Single volumes, M. 2; two volumes bound together, M. 3.

The Bowker Fertilizer Company, 43 Chatham St., Boston, announces that its annual contest for 1905 was a great success. The prizes awarded for the best photographs of crops grown on Bowker fertilizers were as follows: —

First prize: $15.00, Theodore Eitel, Louisville, Ky.

Second prize: $10.00, Wm. F. Bond, Avon, Mass.

MR. CURTIS'S INDIAN PICTURES

Mr. E. S. Curtis, whose remarkable series of photographs, illustrating the life of the American Indian, has created such wide-spread interest, will contribute a series of articles on his favorite subject in the May and June numbers of *Scribner's Monthly Magazine*. As these are to be profusely illustrated with half-tone reproductions of original photographs taken by Mr. Curtis, the general public will gain fresh and accurate information regarding a topic sure to be interesting. The collection of Indian subjects, exhibited recently at the Arts Club, New York City, and numbering several hundred different prints, will be shown in the spacious art gallery of the St. Botolph Club, Boston, Mass., April 1 next, and will, doubtless, create as much of an artistic sensation as it did in New York City and elsewhere.

Mr. Curtis has made the study of the North American Indian his life work. He has lived with various tribes, journeyed with them, participated in some of their sports and ceremonies, and given their habits and mode of life his most careful and sympathetic attention, so that he feels he has acquired a thorough knowledge of the "noble red man." He has thus availed himself of exceptional opportunities to perpetuate, by means of the unerring eye of the camera, scenes of a life which, to the living and many generations to follow, will be of inestimable historic value.

Fully appreciating the strong quality of Mr. Curtis' art, we shall reproduce in the next issue of the Photo Era several representative prints by this fascinating and sympathetic pictorialist.

The Postal Photographic Club of Washington recently met and reelected its principal officers, as follows: president, Chas. E. Fairman; secretary and treasurer, G. A. Brandt. The new circulating album of this club is one of the best yet sent out, and the membership of the club (35) includes many well-known photographic workers.

We are pleased to note that the Champion Paper Company of Hamilton, Ohio, has just started a publication in the interests of the Champion No. 1, Pure White Book Paper. This enterprising concern has found a little niche in the publishing field that no one can fill so well as themselves, and they have decided to fill it with their publication *Pure White*. *Pure White* is a most interesting magazine for the printer and publisher, keeping him in touch with the latest developments in paper making, the newest ideas in getting finished results from the use of paper, printing, and photo-engravings — but particularly paper.

When taking a child or group there is usually one favored moment *during* which you should make the exposure.

You are waiting for that moment, and instinctively grasp the bulb. With a Low Shutter you get the *full value* of the moment, while with others you get about one half of the exposure when you want it, and the balance afterward. In other words, a Low Shutter operates when the bulb is pressed, and is quick as thought itself, and other shutters operate only after a large part of the pressure has been applied.

DOUBTLESS many of our readers are looking for bargains in cameras, photographic accessories, stereopticons or lantern slides, and we suggest that Williams, Brown & Earle, 918 Chestnut Street, Philadelphia, Pa., have purchased the entire stock of Queen & Company, and are selling it at discounts of fifty per cent to seventy-five per cent. A postal will bring their Clearance List to any address.

WITH sincere regret we record the death of Mr. O. H. Peck, of the New York Lens Co., on Monday, January 8. On the first of January Mr. Peck was knocked down and run over by a large automobile on Fifth Avenue, and sustained a fracture of the skull and other serious injuries which proved fatal. A host of friends in Minneapolis, where he was formerly in business, as well as many more in New York, will mourn the loss of this genial man. We extend condolences to his bereaved wife, his son and daughter.

A NOVEL feature at the approaching meeting of the Professional Photographers' Society of New York will be an exhibition of what may be termed "bread-and-butter" pictures. Each member will be asked to exhibit what he regards the best picture made in the course of regular work during the preceding year. This idea, while entirely new, is an excellent one, and should prove interesting, instructive, and of great mutual benefit to the members of the Society.

MR. EDWIN WILSON, of Savannah, Ga., who was elected Secretary of the P. A. of A. at the Boston Convention, has found it necessary to resign, owing to the fact that his time is completely occupied with his photographic studios and the automobile business, which he has recently entered. Mr. Chas. W. Hearn of Boston, President of the Association, has appointed Frank W. Medlar, of Spencer, Iowa, to fill the vacancy. Mr. Medlar has been a stanch supporter of the National Association for many years, he is popular with everybody, and will fill the position with credit. We wish him all success in his work.

THE PENNSYLVANIA CONVENTION

IT is just about the right time to say a word to you, brother photographer, on the subject of the Pennsylvania Convention, which meets in the most beautiful city of this or any other country, in May, the loveliest month of the year.

The city of Washington in May is paradisiacal in the glorious sky colors, magnificent landscapes, and the structures of empire which our fathers builded. It is a full rich inspiration to your Art and your patriotism, and while we will make no stereotyped assurance that the convention will transcend all others, we will say that no pains will be spared to make this an ideal convention.

We will engage the very best and most successful photographers in this country as lecturers, who will tell you how they achieved fame and success.

The show of fine pictures will be the best this country affords. If you care for prizes, there will be some fine ones to work for. The social features will be many.

Will you starve your own artist life by staying away from all these sights and sounds? Don't do yourself or your fellows that injustice. Come out into the wide field of our fellowship.

THE EXECUTIVE BOARD OF THE
PENNSYLVANIA CONVENTION.
A. T. PROCTOR, *Pres.*

N. E. PHOTOGRAPHERS' ASSOCIATION

At a meeting of the full Executive Board of the Photographers' Association of New England at the Hotel Brunswick, Boston, on January 18th, it was voted to hold the next annual convention at the Mechanics Building in this city, on August 21–23, inclusively. It was also voted to offer prizes for pictures, the prizes to be awarded by a popular vote of the members present at the convention — each member to receive a numbered coupon, which later on could be used as a ballot to record the choice of the best picture. The experiment is a novel one, and its success will be watched with interest. The officers of the association are, president, Chris Johnstone of Hartford; first vice-president, J. Bushong of Worcester; treasurer, S. M. Holman of Attleboro; secretary, Jas. Evanoff of Boston.

The Wollensak Optical Co. purchased the factory and good will of the Rochester Lens Co. on January 6, and will conduct the business under its own firm name. This purchase represents a distinct addition to the output of the Wollensak Optical Co., whose shutters and lenses have maintained a high standard and a widespread reputation second to none.

The Portfolio Club has recently been organized in Worcester, Mass., with the following officers: Lee Russell, 11 Green Lane, Director; H. R. Cummings, 314 Main Street, Secretary-Treasurer. There are fourteen charter members, and the total membership is limited to sixteen. A monthly portfolio of prints is circulated, and each print is criticized by the members. Monthly meetings are held at which a special subject is discussed by one of the members who has been specially appointed in advance. The members, benefited by the instruction thus obtained, are doing fine work, and it seems to us that the idea is excellent — one which ought to be taken up by photographers for mutual benefit in every community.

The Fifth Annual Exhibition of the Wyoming Valley Camera Club of Wilkes-Barre, Penn., will be held at 18 West Market St., from March 12 to 17, 1906. It will be open to all who are endeavoring to promote the advancement of pictorial photography. There will be no awards.

All negatives from which pictures are submitted must be the work of the exhibitor. Prints will be accepted either framed or unframed. The title of each picture and the exhibitor's name and address must be plainly written on labels provided by the club, and attached to the back of each picture.

Pictures which are accepted cannot be removed before the close of the Exhibition. The prints to be submitted must be in the hands of the Committee by 8 P.M., Feb. 28, 1906.

R. L. Wadhams, *Secretary.*

Messrs. G. Gennert of New York and Chicago inform us that their quarters in Chicago, although occupied less than a year, have proved inadequate for the increasing business, and they have been obliged to secure larger accommodations at 53 and 55 East Lake St. Mr. G. C. Gennert will continue to manage the Chicago branch in the able and genial manner which has won him so many friends, while Mr. Maurice G. Gennert, who has recently returned from Europe, bringing many photographic novelties, will continue in control of the New York branch.

Since the introduction of the Aristo Gold Post Card, by the American Aristotype Company of Jamestown, N. Y., they have been flooded with requests for a paper, in regular sizes, of the same quality. To meet this demand the Aristo Carbon Sepia paper, which is a practical parallel to the Aristo Gold Post Card stock, has just been placed upon the market. No photographer can afford to omit giving this meritorious product a trial.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA

NIAGARA FALLS, N. Y., *Jan.* 18, 1906.

The Executive Committee of the Photographers' Association of America met at the Prospect House for the purpose of making arrangements for the Twenty-sixth Annual Convention.

All officers were present. Charles Wesley Hearn, President; C. J. Van Deventer, First Vice-president; C. L. Lewis, Second Vice-president; F. R. Barrows, Treasurer; Frank W. Medlar, Secretary.

The report of the Ex-secretary was as follows: —

Received on Outstanding Account 1904	$ 219.35
Received for Floor Space 1905	2,775.00
Received for Desk Space 1905	250.00
Received for Advertising Space 1905	895.00
Received for Merchandise Sold	5.00
Received for Balance Ladies' Entertainment Fund	40.00
Paid to F. R. Barrows, Treasurer, in Full	$4,184.35
Outstanding Accounts	$24.50

Treasurer's Report

Cash on Hand Jan. 1, 1905	$5,026.20
Received from Secretary	4,184.35
Received from Membership and Dues	3,128.00
Entertainment Loan Returned	300.00
Received — Hotel Lenox	100.00
Sale of Ladies' Pins	37.25
Total	$12,775.80
Paid out on Vouchers drawn by President and Secretary, Nos. 479 to 582 Inc	7,957.26
Balance on Hand Jan. 1, 1906	$4,818.54

COMMITTEES APPOINTED

E. E. Poole, St. Catherines, Ont., Committeeman for Canadian interests.

Hotels and Accommodations. — C. L. Lewis, Frank W. Medlar.

Entertainment. — E. F. Olmstead, Chairman, Niagara Falls, N. Y.; C. L. Lewis, C. J. Van Deventer, J. Geo. Nussbaumer.

Decoration and Hall. — C. J. Van Deventer, C. L. Lewis, Frank W. Medlar.

Ladies' Reception Committee. — In charge of Mrs. E. F. Olmstead, of Niagara Falls.

Membership Buttons. — F. R. Barrows, C. J. Van Deventer.

Press Committee. — C. J. Van Deventer, C. L. Lewis, Frank W. Medlar.

Transportation. — C. L. Lewis, F. R. Barrows, E. E. Poole.

Printing and Advertising. — Charles Wesley Hearn, F. R. Barrows, C. L. Lewis.

Association Review. — C. L. Lewis. C. J. Van Deventer, Charles Wesley Hearn.

Information. — F. R. Barrows, F. W. Medlar.

Local Press. — T. Smith, Niagara Falls, N. Y.

The President appointed C. J. Van Deventer and C. L. Lewis to audit the accounts of the ex-Secretary and Treasurer, which were found to be correct, and were approved.

It was decided that the Convention be held on August 7, 8, 9, 10, in the Cataract-International Hotel, and it will be known as the Niagara Falls Convention of the Photographers' Association of America.

Other important matters decided upon were as follows: —

That the meetings, exhibits, and official headquarters be in the Cataract section of the hotel.

That the courtesies of Room A be extended to the New York State Association of Professional Photographers.

That prizes be eliminated from the convention.

That twenty-five pictures be selected as a salon exhibit, and that such pictures be officially recognized by the Association.

That the salon exhibit be recommended as the illustrations for the *Association Review* for 1907, thereby enabling every member to possess copies for future reference and study.

That $200.00 be appropriated by the Association toward the Entertainment Fund.

That a printed ballot slip be prepared to be used in balloting in the election of officers, and that no other than this official ballot be recognized.

FRANK W. MEDLAR, *Secretary.*
Spencer, Iowa.

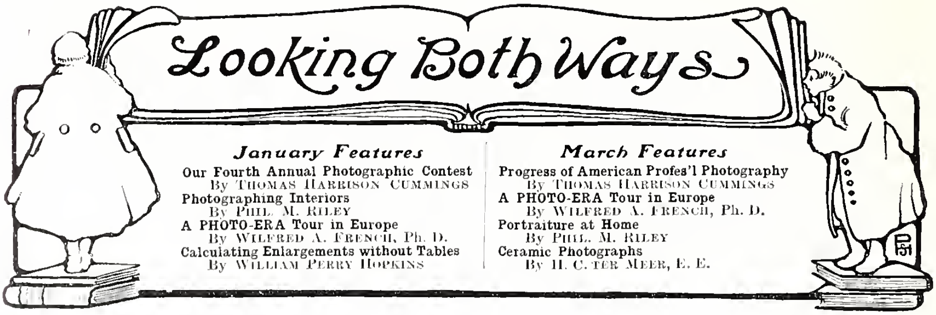
NOTES AND NEWS

One of the most popular brands of paper with the professional photographer to-day in this country is the Di Nunzio Sepia Platinum, of cold development fame. The manufacturer of this paper is Mr. Jos. Di Nunzio of Boston, who has just set sail for Europe, with a view to introducing his paper there. The paper has been thoroughly tested here now with six years of general use among the trade and the profession at large, and has been very successful. The capacity of the Boston plant has been taxed to the utmost, to supply the local consumption. It is probable that a large addition will be made to it, to meet the demand of European consumers, who are sure to be many when they learn the fine qualities which this wonderful *sepia paper* possesses. We bespeak for Mr. Di Nunzio a cordial reception at the hands of our European brethren.

An exhibition of pictorial photography was held at the Little Galleries of the Photo Secession, 291 Fifth Avenue, New York, from January 10 to 24, which was devoted entirely to prints from representative French workers, such as Puyo, Demachy, Le Bégue, Grimprel, Laguarde, and others. Some very interesting and exceptionally fine examples of gum printing were shown, which excellently typified the modern tendency among French pictorialists, and proved that there are only a few workers in this country, notably Eduard Steichen, who can equal these men in handling this beautiful medium of artistic expression. We were impressed with the delicious richness of color, remarkable smoothness of texture, wonderful depth of the shadows, and pleasing brilliancy of the high lights, which proved these men to be past masters in the manipulation of this process and artists of great creative genius. Many people preferred this exhibit to that of the Secessionists, which recently closed and, while it may have appeared more finished to the casual observer, yet it did not possess the strength and character of its predecessor, and therefore failed to be as fully convincing.

In the Photo Secession galleries, 291 Fifth Avenue, New York, from January 26 to February 2, was shown a series of photographs by Herbert G. French, illustrating portions of Tennyson's "Idylls of the King." The purpose of the series, as set forth in the catalogue, was to suggest the varied human emotions portrayed in Tennyson's version of the Arthurian legend. The list comprised forty-five photographs in all, and again demonstrated — if any demonstration was necessary — the ability of Mr. Stieglitz and his associates to deliver the goods.

The Illinois College of Photography recently enrolled fifteen new students who came to the college from China, Wales, Canada, Michigan, Utah, Ohio, Illinois, New Hampshire, Pennsylvania, Tennessee, and Nebraska. This is an indication of the widespread fame of the Illinois College.



Looking Both Ways

January Features

Our Fourth Annual Photographic Contest
By Thomas Harrison Cummings
Photographing Interiors
By Phil. M. Riley
A PHOTO-ERA Tour in Europe
By Wilfred A. French, Ph. D.
Calculating Enlargements without Tables
By William Perry Hopkins

March Features

Progress of American Profes'l Photography
By Thomas Harrison Cummings
A PHOTO-ERA Tour in Europe
By Wilfred A. French, Ph. D.
Portraiture at Home
By Phil. M. Riley
Ceramic Photographs
By H. C. ter Meer, E. E.

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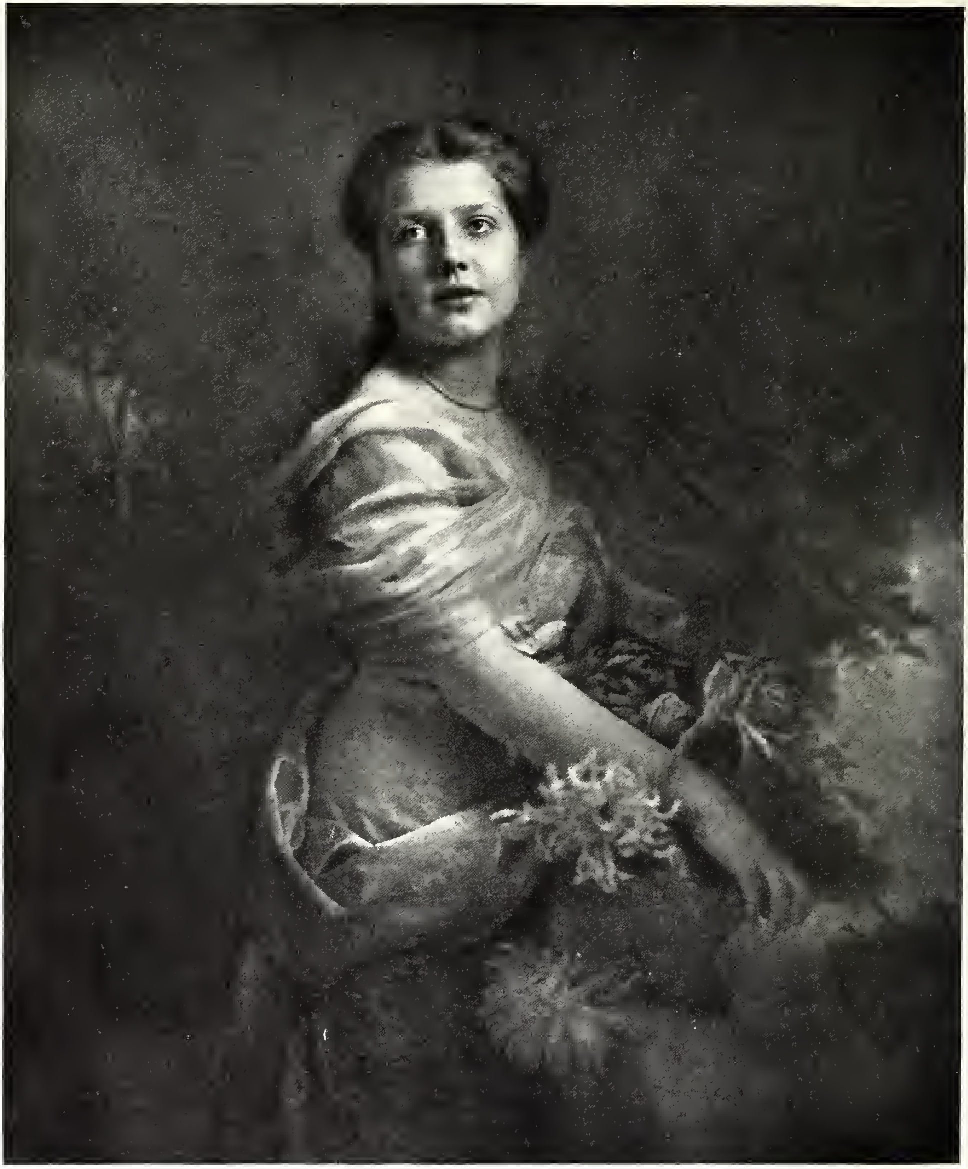


GARO, BOSTON
THE FLOWER GIRL

PHOTO ERA

The American Journal of Photography

VOL. XVI MARCH, 1906 No. 3

MISSES BODINE AND LEWIS WINTER

AMERICAN PROFESSIONAL PHOTOGRAPHY

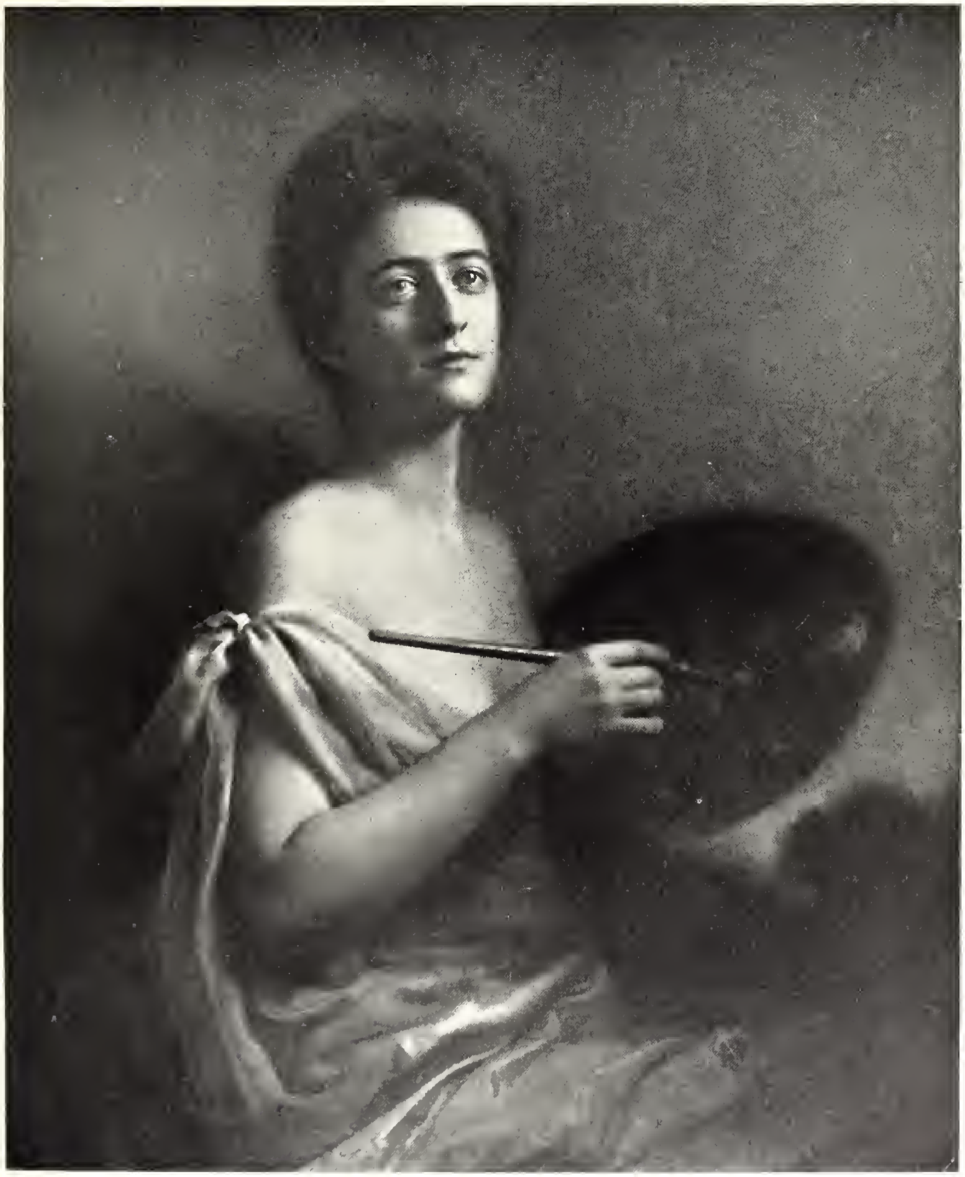
THOMAS HARRISON CUMMINGS

WHEN the story of photography comes to be rightly told, whether in enduring bronze or marble or type, there are three names, in a class all by themselves, which will stand high up on the sculptured pillar of fame. Daguerre in France, Fox Talbot in England, and John W. Draper, M. D., in America. While the two former are authoritatively credited with discovering the process, to the latter belongs the credit of shortening the time necessary for exposure and making the process available for commercial purposes. To him also belongs the distinction of taking the first portrait from life ever made by photography, in the world. No story of American professional photography would be complete without an allusion to the work of Prof. John W. Draper, M. D., of the University of the City of New York.

Sir David Brewster, in the *Edinburgh Review* for January, 1843, writes as follows: "Dr. Draper, we believe, was the first who, under the brilliant summer sun of New York, took daguerreotype portraits. This branch of photography seems not to have been regarded as a possible application of Daguerre's process, and no notice is taken of it in the reports to the French legislative bodies. We have been told that at that period Daguerre had taken no portraits, and when we consider that twenty or twenty-five minutes were then deemed necessary to get a daguerreotype landscape, we do not wonder that portraiture was unthought of in this connection."

Samuel F. B. Morse, the famous inventor of the telegraph, was associated with Professor Draper in his early photographic experiments. He writes on Feb. 10, 1855, that they commenced taking portraits together as early as 1839. And as their experiments had put them to considerable expense, they made a charge to those who sat to them, to defray this expense. Such was the early beginning of Professional Photography in America. In the brief space of time that has since elasped, some sixty odd years, photography has made wonderful strides. It has grown from a vague suggestion of an image on a metallic plate in the early days of Daguerre, Fox Talbot, Draper, and Morse, to the rich carbon or platinum print of to-day, technically superb and artistically well-nigh perfect — sometimes as beautiful as anything the painters can give; composition, tone, color, all combined to produce beauty. The arrangement of line, the development of curves, the massing of light and shade is just as an Italian master would compose a picture in the fifteenth century, giving these later samples of professional portraiture all the qualities of paintings, minus, perhaps, the color.

In making this statement, we are not disposed to underestimate the value and beauty of the early daguerreotype — because we know that, in the beginning, with the long exposure necessary, any distinct striving after artistic effect was hardly possible; while on the other hand, for pure beauty we willingly concede that some of the daguerreotypes of those early days can be ranked among the finest portraits ever taken by photography. But, as compared with this work of a later date, we contend, that the creative imagination of the artist is not so evident in the daguerreotype. In creating any work of art the artist must first think of his subject, in a certain effect or design. In photography he must think of his subject in lights and shades, beauty of line, etc., and having created the effect he imagined, he then takes its picture. In this way, the creative imagination comes into photography with design; and when they both come into any art, that art becomes a fine art. The examples of professional photography selected to illustrate this number of the Photo Era have all been carefully planned, thought out, and designed by the makers. These pictures have been designed as a poem, symphony, or house might be designed. For design brings abstract ideas into organic form, and the value of design in picture making lies in the fact that it makes good the conception of the photographer in the picture. Three things, however, are necessary to make the design successful. First, the idea must be present; secondly, the artist must have a right technical knowledge of the materials through which this idea is expressed; thirdly, he must know the fundamental principles of design if beauty is to be the result.

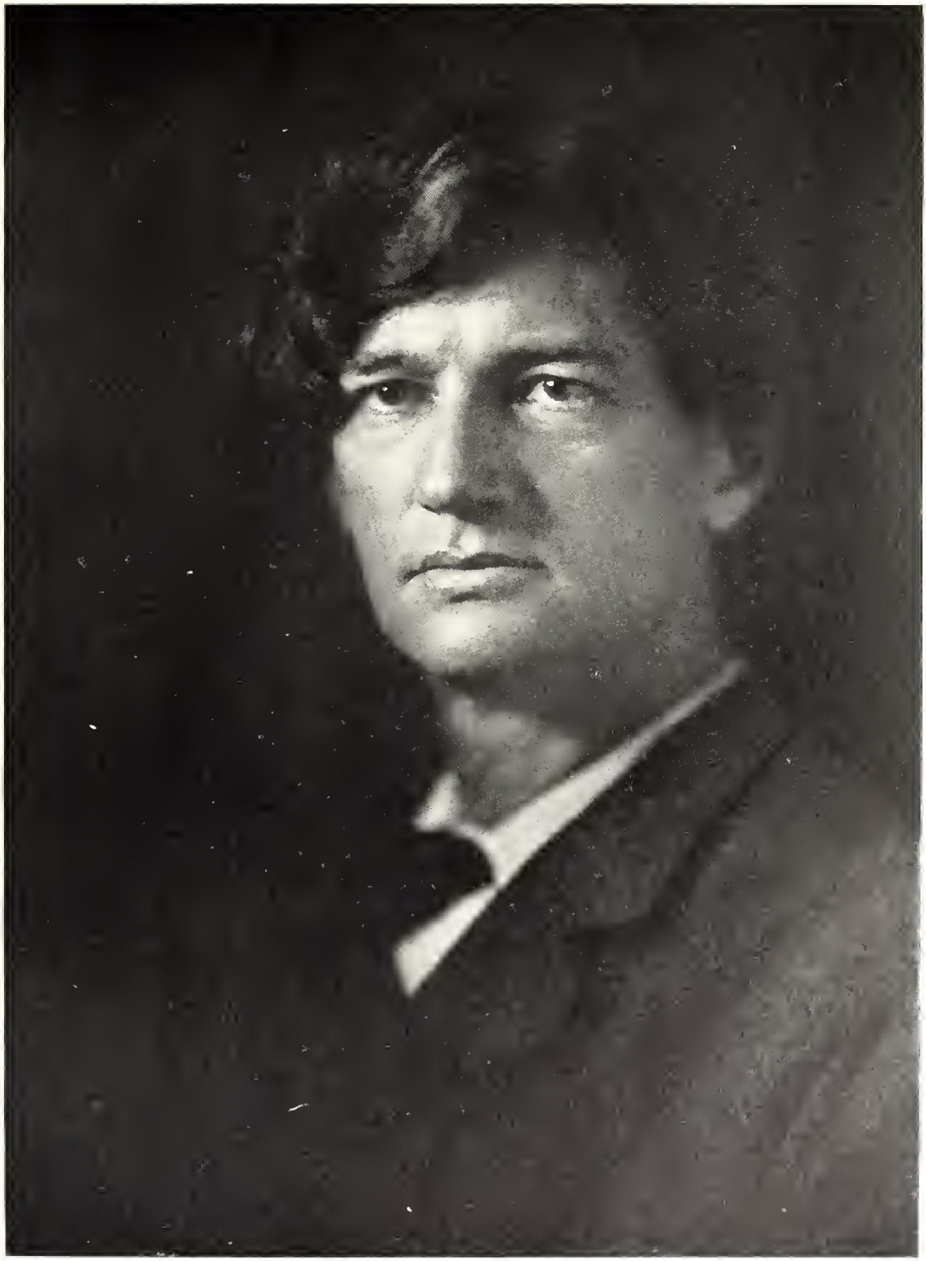


GARO, BOSTON
INSPIRATION

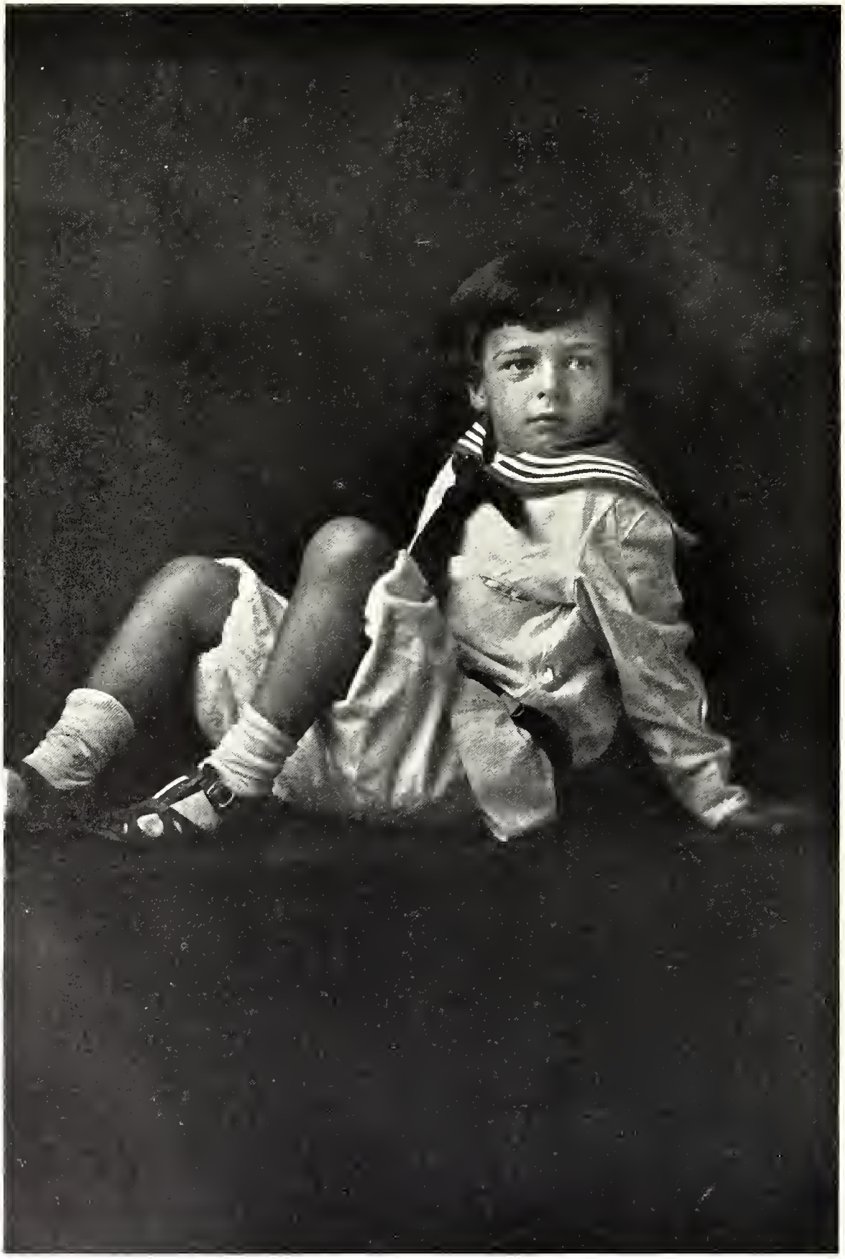
In all these particulars the little group of professionals whose names are associated with this article have individually and collectively excelled. Messrs. Garo, MacDonald, Strauss, Pierce, Curtis, Hoyt, Cooke, Goldensky, Knaffl and Van Norman are to-day representative names of a high order of excellence in the American photographic world. They have ideas and are all masters of photographic technique and design. Without individualizing, their pictures are strikingly original, as a whole, full of graceful curves and soft touches of light and shade. Their feeling for balance and spacing, whether conscious or unconscious, is well-nigh perfect. Their work is broad and simple, and, as any one can see, full of grace and refinement that in no way lessens the artistic strength of their compositions. Whether it be the result of inspiration or of craftsmanship, or both, they seem to have a genius for seeing and representing their sitters in a dignified and impressive way. This gift lends power and distinction and an indefinable charm to whatever they touch, and marks the difference between the master and the craftsman in photography. Such men are interesting and helpful, to say the least. By getting away from conventional portraiture, they enlarge the horizon, improve the work, and leaven the whole mass of the profession. The force of good example is such that their influence must be felt, if only in stirring good photographers to exercise their ideas and inspiring them with that first essential to all artistic work, viz.: an enthusiasm for their profession.

Some great writer has said that the salvation of all art lies in the saving sense of nationalism. Perhaps some day, when the American professional has progressed so far that he can do something really distinctive in photography, regardless of whether it is right in Paris or in London, we may see the beginning of a National School of Photography in America. The toning of color values into what they consider the right harmony, and the painful insistence that each part of the photograph shall be just so, until where all is emphatic nothing is emphatic, is one of the reasons why the American portrait photographer to-day lacks distinction in his pictures. He does not properly understand American life as he should, and therefore does not recognize the lines and motion of such a life. He makes a picture of what he sees, but his vision is not clear. He misses what is distinctively American, and the one touch that would differentiate his picture from that of others he loses. The French, English, and German artists do these things differently and better than we do, because they go back to first principles in their analysis of the sitter. Their mental equipment is such that they easily catch what is distinctive and reproduce it each in his own way. Hence we have National Schools of Photography in Europe that the American photographer would do well to study. In an address delivered before the Photographers' Association of America at the Quarter Centennial Convention in Boston, 1905, I spoke of the various schools.

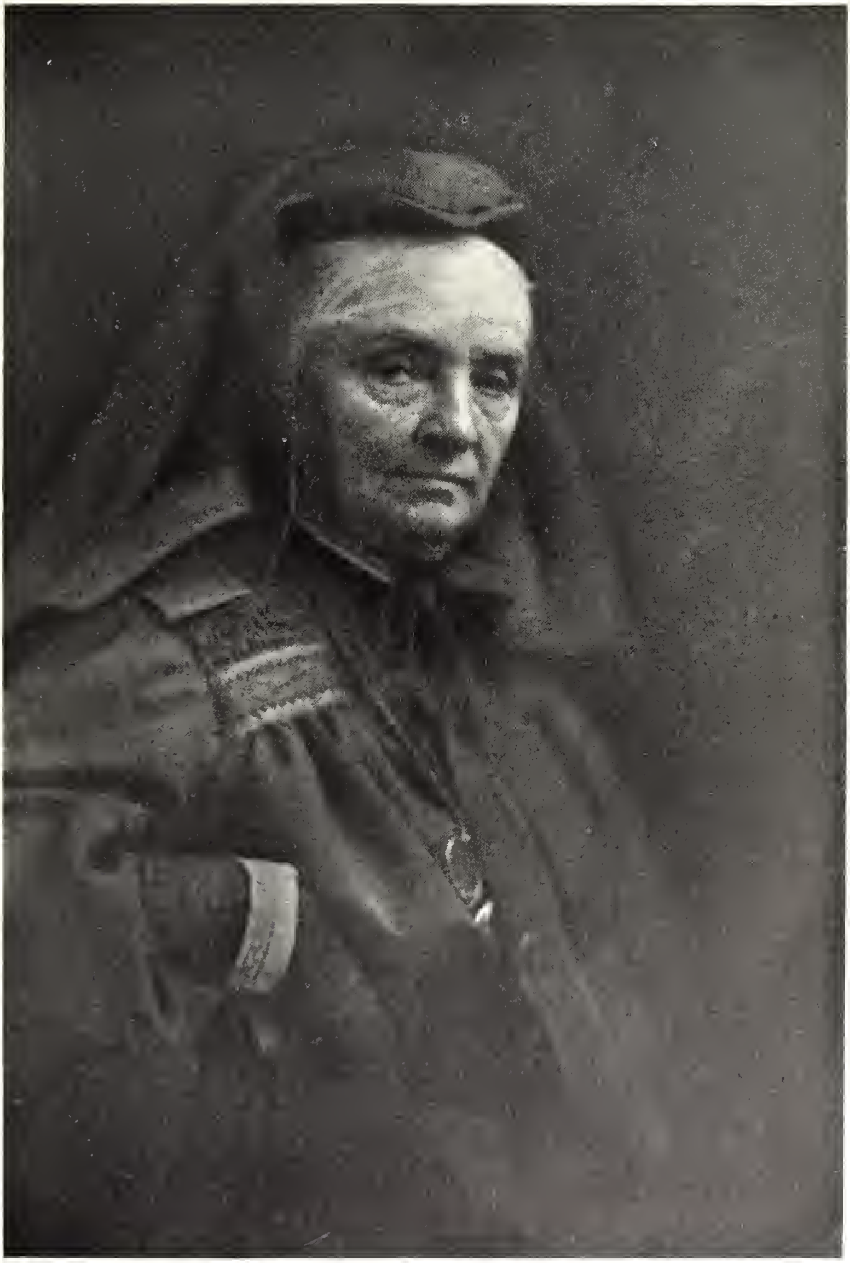
Perhaps one of the strongest arguments to prove the claims of photography to be a fine art lies in the fact that it is evolutionary, like all the arts. Not only are individual workers created whose style can be easily differentiated from



MACDONALD, NEW YORK
BLISS CARMEN



STRAUSS, ST. LOUIS
YOUNG AMERICA



STRAUSS, ST. LOUIS
A PORTRAIT

that of others, but national schools of photography are being evolved. Nay, more; national schools of photography exist. What may be dignified by the name of a national school of photography exists in Belgium, England, Germany, and in France; and even in the outlying regions of Russia, India, and Australia there exist earnest workers striving to lift photography to the rank of an art.

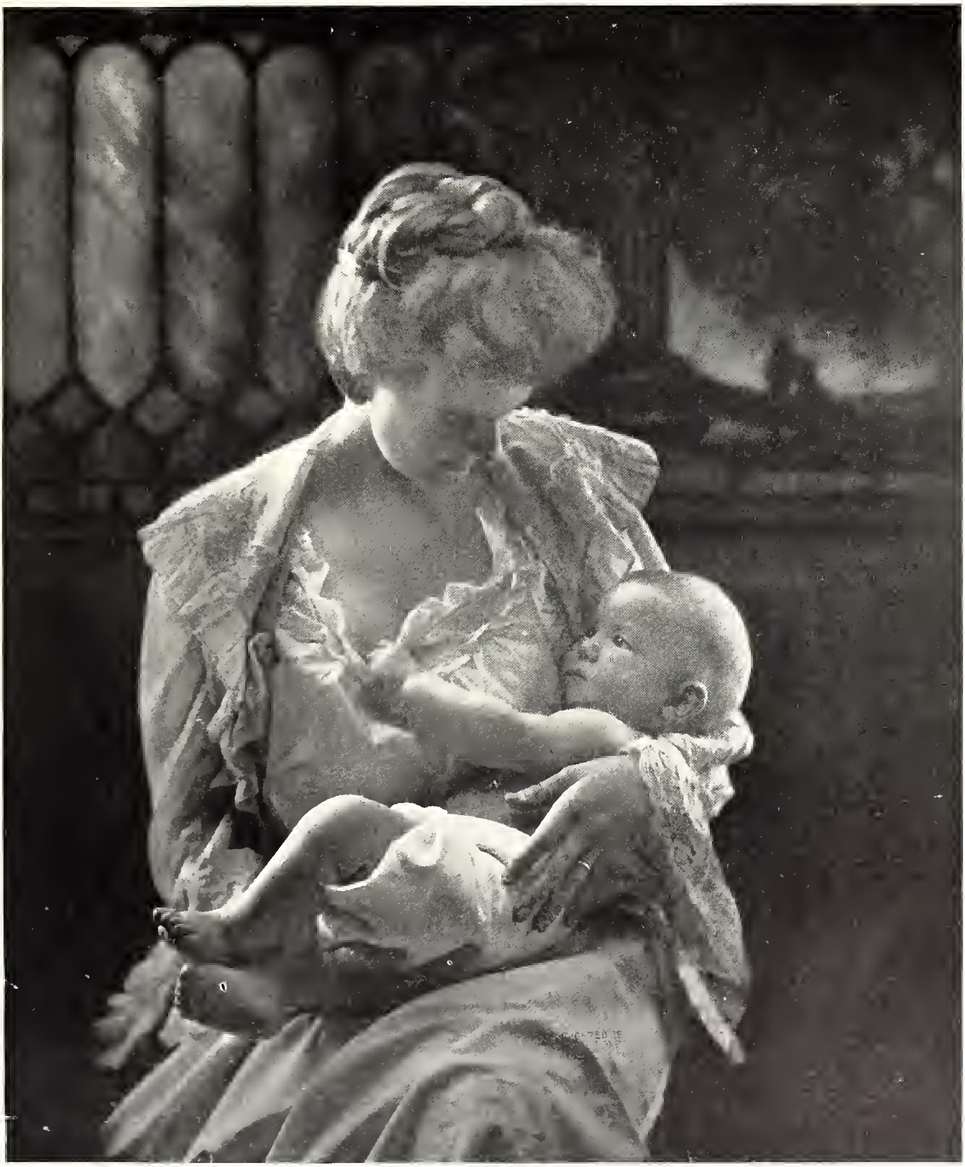
In Belgium we find a mixed nation, speaking two languages, and its photography is accordingly imbued with both French and German characteristics, but it is quite distinct from both. As the Flemish painters for many years have been striving to bring back the glory of their nation in art, by again reproducing national feelings, so also the photographers to-day are forming a national school by expressing national characteristics.

In England, despite the separation of photographers in two groups, the Royal and the Linked Ring, a unanimity, of thought, feeling and expression pervades the whole work. The English photographer, with few exceptions, stays at home and photographs what is about him — his meadows, his cathedrals, his people, his home; and this love of home is the keynote of English character and success. His love of truth is reflected in his care for detail, his aversion to faking, and his inclination to make straight photographic prints.

In the photographs of Demachy, Dubreuil, Puyo, Le Begue, Lemoine, Madame Binder-Mestro, and others in France, we find all of the same general character: pictures full of grace and beauty; graceful women, posed nude or wonderfully draped; pleasing genre studies and landscapes full of tender beauty and the grace of cultivated parks; all the signs of civilization, far advanced and possibly decadent. In other words, French photography portrays the national character just as the erotic and stylish French literature and the impressionistic and sensuous French paintings of to-day do.

On the other side of the Rhine, in Germany, we find quite a different style of photography. Here are the masters of simplicity in landscape and portrait composition. Every exhibition of German photography is given its key by the massive and magnificent large gum prints on one or several colors by the Hofmeisters, Kuhn, Henneberg, Perscheid, and a dozen others as strong as they. The admiration for great size is a part of the German national character. Kaiser Wilhelm is always seeking to widen German influence, to make his country great in war, in commerce, in diplomacy and world-mastery. The simplicity of the composition of these pictures reflects the German tendency to concentration, to bending all efforts to a single end. Finally, the somewhat gloomy and fantastic effect of these pictures reveals the imaginative strain so prominent in all German thought — a relic of their northern ancestry. Thus, in all things, German photography reveals the national character.

The above facts are respectfully submitted to the attention of the American professional of to-day. Now, let him show what is essentially characteristic and truly American in his pictures, since the pulsations of his heart from childhood must have opened his eyes to the real distinction that exists in American life and character.



PIERCE, BOSTON
MOTHER AND CHILD

CERAMIC PHOTOGRAPHS

H. C. TER MEER, E. E.

Of the many purposes to which photography can be applied, the production of ceramic photographs is one of the most beautiful and, at the same time, one of the most useful. By its aid, pictures of any color, or combination of colors, can be produced on porcelain, and by using suitable colors, also on glass. The objects to be decorated may be of any shape, although the photographs are most easily applied to flat or very slightly convex surfaces. It is evident that portraits, landscapes, and also exact copies of pictures can be produced in this manner. The process is eminently suitable for the production of miniatures.

Ceramic photographs can be divided into two great classes, namely, those produced with ordinary pigments, as, for instance, by the carbon process — which of course cannot be vitrified and do not withstand the action of water — and those produced with ceramic colors, or with the precious metals, such as platinum, gold, etc., and which must be burned in. They are thus vitrified and become part of the ware. These pictures resist the action of all acids, except hydrofluoric, and also the action of the atmosphere, being in fact as permanent as the ware itself. The latter group can again be subdivided into two groups; *i.e.*, the "substitution process" and the "dusting on process." The "dusting on process" can be carried out with (1) salts of chromic acid, (2) salts of iron. Of these processes, only the latter, employing salts of iron, will be described here.

This process possesses the advantage over the "dusting on processes," employing salts of chromic acid, that a diapositive is not required, the printing being accomplished with the negative.

It is based on the fact that when a solution of ferric chloride, of suitable strength, is poured on a glass plate and dried in the dark, a skin is formed, which is not hygroscopic. When this skin is exposed to sunlight, the ferric chloride is reduced to ferrous chloride by the action of the light. Since ferrous chloride is hygroscopic, it attracts moisture and becomes sticky, so that finely ground powders will adhere to it. It is evident, since the ferric chloride is reduced by the action of the light and is thus rendered hygroscopic, that a negative must be used to print from. This is an advantage, because it saves the time and labor required to make a diapositive, required in the other "dusting on processes."

The chemicals required are cheap and readily obtainable. Several formulas for preparing the solution, of which the sensitive coating is made, are in use. Of these Poitevin's and Obernetter's will be given.

Poitevin's formula	Ferric chloride	10 grams or 154 grains
	Tartaric acid	5 " " 77 "
	Water	100 c. c. or $3\frac{1}{2}$ ounces

Obernetter's formula	Iron citrate	10 grams	or	154	grains
	Citric acid	5 "	"	77	"
	Concentrated solution of ferric chloride	2 "	"	31	"
	Water	100 c. c.	or	$3\frac{1}{2}$	ounces

Dissolve the substances in the water; bring to a boil; cool, and filter.

After having carefully cleaned some glass plates (slightly larger than the required picture), and having prepared the solution according to one of the above formulas, the process is carried out as follows: —

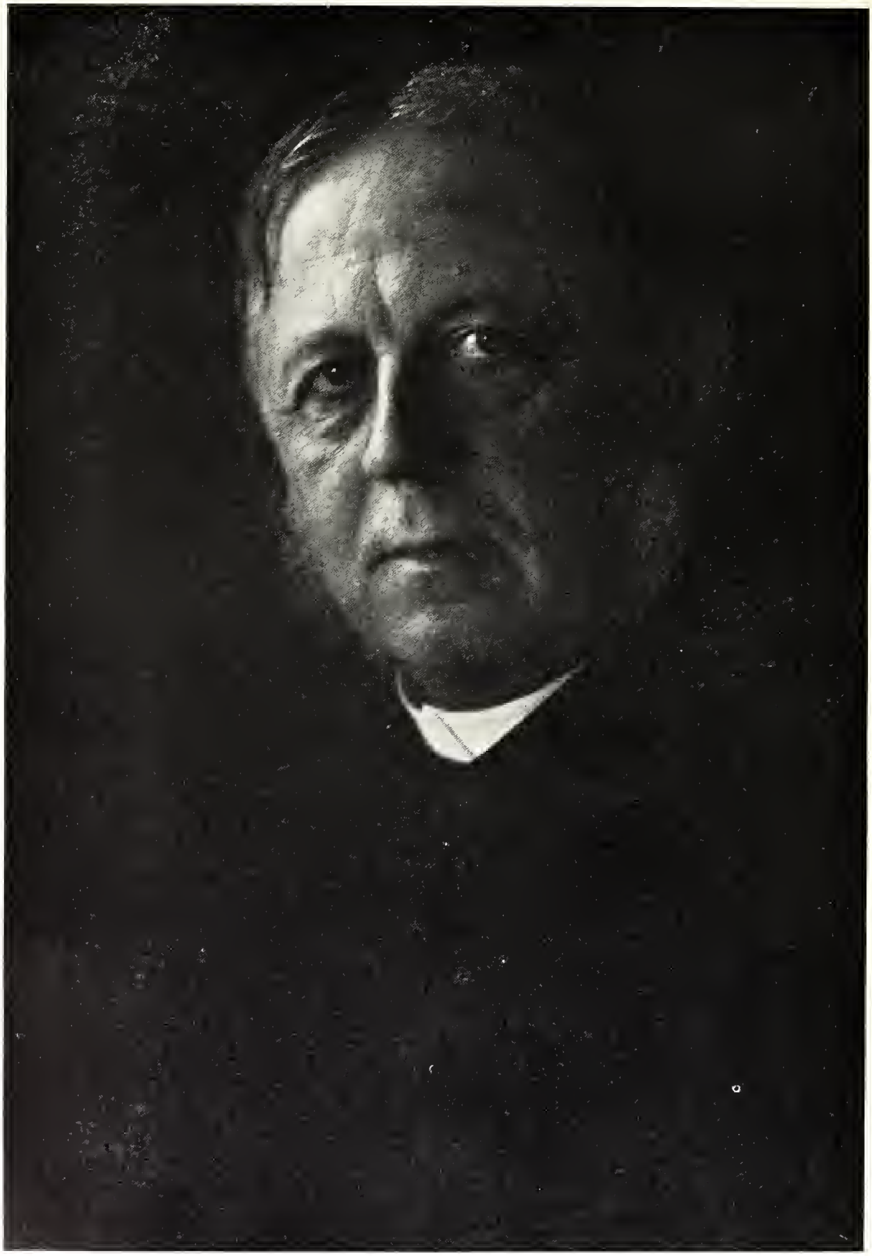
One of the clean glass plates is held in the left hand and a large pool of the sensitive solution is poured on it, near the lower left hand corner; the plate is then tilted, so that the pool spreads out over the plate, being allowed to flow, first from the lower left hand corner to the upper left hand corner, thence to the upper right hand corner, and finally to the lower left hand corner. The excess is then allowed to run off the plate, at the lower right hand corner, into a clean bottle. This solution can be used over, after filtering.

After the plate has been coated, it may be put aside to dry spontaneously in the dark, or it can be dried by the aid of heat over a stove or over an alcohol flame, in a room illuminated by artificial light, or very diffused daylight. The two latter methods of drying are preferable.

When the plate is dry and while still warm it is put into the printing frame on the negative to be printed. Generally the film side of the prepared plate is placed in contact with the film side of the negative. By this method all the details of the negative are reproduced. If it is desired to produce broad, sketchy effects, the negative is reversed, so that the glass side of it is in contact with the film side of the sensitive plate. In order to produce the same effect, a sheet of thin white tissue or tracing paper may be placed between the negative and the plate, but this method increases the time required for exposure.

The time of exposure varies, depending on the opacity of the negative and on the light. With a negative of medium opacity, an exposure of about seven minutes in direct sunlight, or about one hour in good diffused daylight, is generally sufficient.

Preparatory to development, the plate is taken out of the printing frame and placed on a cold surface, where it is allowed to remain for several minutes. This treatment is specially recommended to be used in warm weather, in summer, and when the plate was printed in sunlight. For the development of the picture a small quantity of finely ground ceramic powder color, of the desired color, is dusted on the plate and carefully spread, by a rotary motion of a wide, soft brush. This must be done carefully, more color being added from time to time, as required. By this treatment, the picture is slowly developed. When the process is complete — that is, when all the details are clearly visible — the excess of color is carefully brushed off the plate. If the plate was exposed correctly, the development will be complete in about three minutes. It is well



PIERCE, BOSTON
DR. HUNTINGDON

to remember that the picture becomes somewhat paler in firing and to develop it accordingly. If the plate is overexposed it develops too rapidly and the color also adheres to the high lights; if underexposed, the image will not take the color properly — *i.e.*, the color will only adhere to those portions representing the deepest shadows. It is essential that the air of the room in which the development is carried out is not entirely dry; it must contain a certain percentage of moisture. If, after removing the plate from the printing frame, it is breathed on, then the development can be carried out at once.

The picture being developed, it is fixed by pouring a two per cent solution of plain collodium over it. The collodium is prepared by dissolving 2 parts by weight of gun cotton in a mixture consisting of 50 parts by weight, each, of alcohol and ether. After the collodium has set, but before it has become dry, cut the film to the required size all around the picture, with a penknife, and plunge the plate into a tray of water. This will loosen the collodium film, to which the picture is now attached, from the glass. The film is now carefully floated off the glass and washed out well.

The picture is now ready to be transferred to the object to be decorated. For this purpose, the object is put into the tray of water containing the picture and the film carefully floated on, in the required position. With the aid of a soft brush, this operation is easily carried out. Care must be taken to have the picture facing the right direction, and to avoid wrinkles. They can be smoothed out, by the careful use of the wet brush, as the object is lifted out of the water. This having been accomplished satisfactorily, the object is set aside to dry spontaneously. When thoroughly dry, it is ready for firing.

Any of the ceramic powder colors on the market can be used, provided they are finely ground. For decorating porcelain, overglaze porcelain powder colors must be used; for glass, glass powder colors. In regard to the choice of colors, it will be found that any of the blues, such as royal, delft, or old blue, produce good results. Deep red brown, which is more a brownish red, violet of iron, black, as well as the dark browns, such as chestnut, bitumen, Vandyke brown, and sepia also produce good results.

COLORING LANTERN SLIDES

ELIZABETH FLINT WADE

THE artistic coloring of lantern slides is very delicate work. The slide is so small that the detail is not only almost infinitesimal, but very much crowded, and the gelatine surface, as soon as it becomes wet enough to be sticky, is easily roughened and spoiled.

To be at all successful the worker must have a good eye for color and experience in handling a brush. One's first attempt at lantern slide coloring is apt to be a disappointment, but persistence is the root of all successes, and the novice must be willing to try, and to try again.

The fault of many colored slides is that the artist paints instead of tints them, the tendency being to apply the color too thickly and in too strong tones.

The English colorists are favorable to oil colors, made to flow easily by mixing with copal varnish. The French, who excel in this work, use water-colors and the aniline colors. The latter colors will be found more satisfactory for the beginner, as they flow easily and are free from any sediment. They are in liquid form, very much concentrated, and are diluted with water to the tint required.

These colors may be bought in sets (ten colors in a set) or one may buy them singly. The latter is perhaps the better way for the beginner, who will find five colors quite enough for any attempt he wishes to make in coloring. These colors are yellow, orange, crimson, brown, and blue. The only objection to aniline dyes is that they cannot be guaranteed as permanent; but in some cases this would be an advantage rather than a fault, for time would tone down the harsh or brilliant coloring.

The necessary apparatus for coloring slides is a negative retouching frame fitted with the very finest ground glass obtainable, a dozen or more brushes, and a water-color palette. One should have three or four sizes of camel's-hair or sable brushes of the kind made specially for water-color work, and these should be of the quality that comes to a fine point when wet. In addition, one should have three blending brushes, a sable about half an inch wide and very evenly trimmed, so that the color will follow without streaking.

The water-color palette, with a double row of depressions for mixing — sixteen in all — will be found the most convenient for mixing and handling the colors, but one may use separate dishes like the small china pans that come with color boxes. The advantage of the palette is that the whole gamut of colors lies before one in its entirety, with no danger of one color mixing with another, while with the separate colors the eye must travel from pan to pan to select the tint desired.

For work one requires two or three glasses filled with filtered water and several pieces of old cotton for wiping and cleaning brushes. In addition to this, three or four bell-shaped glass covers are most convenient for covering the wet slide when it is necessary to wait for one color to dry before applying another.

The beginner will find it easier to begin with figure studies rather than with landscapes. His only difficulty — or perhaps it would be better to say his greatest difficulty — will be in getting a good flesh tint.

"Colors seen by candle-light do not look the same by day," and so to obtain colors to be shown by artificial light, the coloring itself must be done by artificial light. A gas burner fitted with a good Welsbach light is the nearest approach to the light of the stereopticon. This light can be arranged easily by using a drop light and a long piece of rubber tubing. Such a light can be set on the floor so that it shines up on to the ground glass, giving a very agreeable illumination for the work.

Lantern slides designed for coloring should be fixed in an acid bath, preferably alum, for the purpose of hardening the film. After being washed, they should be placed for five minutes in a tray of alcohol to remove all traces of grease, and in handling, the fingers should never touch the film. If the slide does not take the color smoothly, rinse and place in a diluted solution of acetic acid, twenty grains of acid to each ounce of water; rinse again and color without drying.

In coloring figure studies avoid strong, harsh tones. A soft color is much more artistic and far more pleasing to the beholder than the violent blues, reds, greens, and purples shown so often in colored slides.

A word about portraits. Never attempt to color a head which when thrown on the screen will be of heroic size. A heroic sized head on a screen never gave pleasure to any one; when colored, it is positively hideous.

The detail in the draperies of figure studies often give the desired effect of light and shadow without resorting to painting in two or more tones, thus necessitating only a simple wash over the surface. Vermilion and yellow in proper proportion makes an excellent flesh tint. It should be put on in thin washes, the desire being usually to put on too much color. Allow each wash to dry before putting on another. This is a precaution well to follow, for without it one is very apt to make them too dark. When working with figures, it is a good idea to examine the work now and then with a magnifying glass to discover defects and remedy them before it is too late.

Having learned to apply the color in even washes and in light tints, one may attempt a landscape. The stumbling block here will be the sky; but if one has studied water-color painting, his work will be comparatively easy, for the tint is applied in broad washes as in some water-color work. The color of the sky depends on the time of day the picture was taken. A bright blue sky would never do for a picture of declining day, nor a tinted sunset sky for a landscape taken at noontide; yet such things are done, and exhibited too.

Having chosen the proper tint for the sky, dip a brush in clear water and brush over the sky very quickly, using one of the blending brushes; then with a second blending brush dipped into the color wash the sky over rapidly and evenly with light strokes, taking great care that the brush does not drag on the softened gelatine. This color must be perfectly dry before a second wash can be applied; and as soon as the slide is drying it must be covered. Before beginning work make some tiny cardboard easels, of very thin board not much thicker than a visiting card. Fold a piece and from the folded paper cut a double right-angled triangle, and toward the base cut two notches projecting at the lower side. When opened out it sets firmly on the table, the slide rests on the two notches, and the glass cover is set over the slide until dry.

Having learned to color a sky evenly, one may attempt blending two or more colors. The simplest form is to try to make the effect of a sunset sky, where at the horizon line it is a rather deep orange and fades gradually upwards where it melts in a tint of blue which deepens as it approaches the zenith.

Take two blending brushes, one of which dip into the color selected for the nearest the horizon, and the other into clear water. Now with the first draw across the plate next the horizon an even band of color, and follow immediately with the brush wet in water, thinning and blending until at the edge farthest from the horizon it shows a very faint tint. The tint must be applied in a swift, even sweep of the brush, in order to get the effect aimed at.

Next take a brush dipped in blue, and beginning at the edge of the plate paint a similar band in blue, and with the wet brush blend and soften until it finally melts and blends into the band below. In applying the color to the sky it is often desirable to reverse the plate so that the superfluous moisture may run off the plate instead of into the detail of the landscape.

Water which reflects the sky usually has a tint of blue in it. In some cases the color of the water is greenish blue, sometimes grayish green, and leaping foaming water, white, with just a hint of green in the shadows.

In coloring a landscape a dilute tint of green is washed in lightly over all objects to be in that color, and when dry worked over in different shades of green, as lights and shadows seem to demand.

If buildings are included, the color must be carefully chosen, the coloring depending on whether the whole edifice seems to be starting out of its surroundings, or whether it appears in its fit and proper place. Some colorists never color a building whose original color is white, for when thrown on the screen it will of course appear white. If, however, the building has very strong high lights, it should be washed over with a dilute tint of lampblack, which will tone down the glaring lights and yet not destroy the impression of a white building.

Some natural objects, like large stones or boulders, in shadow do not require tinting, but may be left in their natural reproduction.

One will have to learn by experiment just how to mix the colors to obtain the tint desired.

Blue and yellow may be mixed to obtain almost any shade of green from light to dark, and in blue or in yellow tints. Orange and blue make a deep green, desirable for some special objects. By mixing crimson lake and Prussian blue almost any tone of purple may be obtained, predominance of crimson lake giving a warm purple, and more of the blue giving a purple in colder tones. Yellow and crimson lake judiciously mixed make a beautiful color, like the sky at sunset, and may be used to advantage as the horizon tint previously described.

Slides may be tinted in monochrome — a very desirable method for certain subjects. This is done by using plates specially prepared for monochrome, or by toning a slide with some chemical, such as uranium, etc.

One thing the colorist should bear in mind, and that is, to use soft colors, and in as simple washes as possible. Heavy, harsh coloring spoils the effect.

An artistically colored slide is a joy to the spectator, and the day will come when only such will be shown by that portrayer of the world's pageant, — the stereopticon. — *The Practical Photographer*, No. 11.

KNAFFL, KNOXVILLE
"JESUS LOVES ME"

A PHOTO-ERA TOUR IN EUROPE

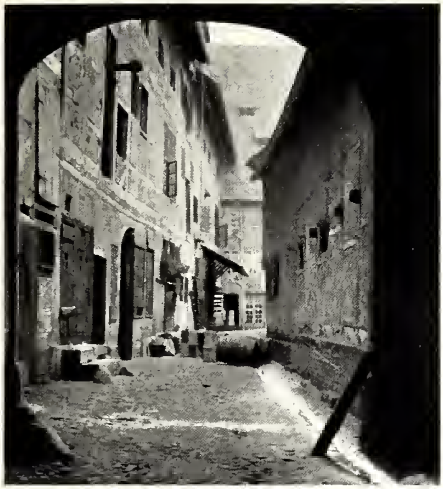
(*Continued*)

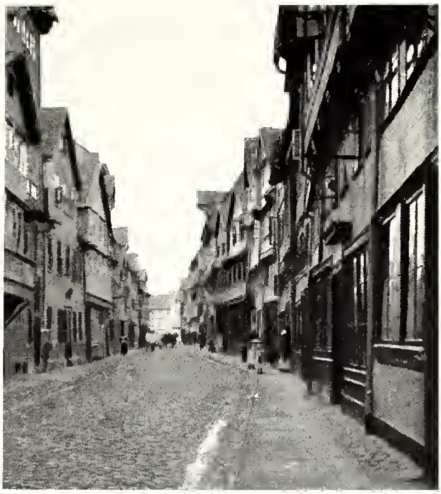
Braunschweig, Leipsic, Dresden and Munich

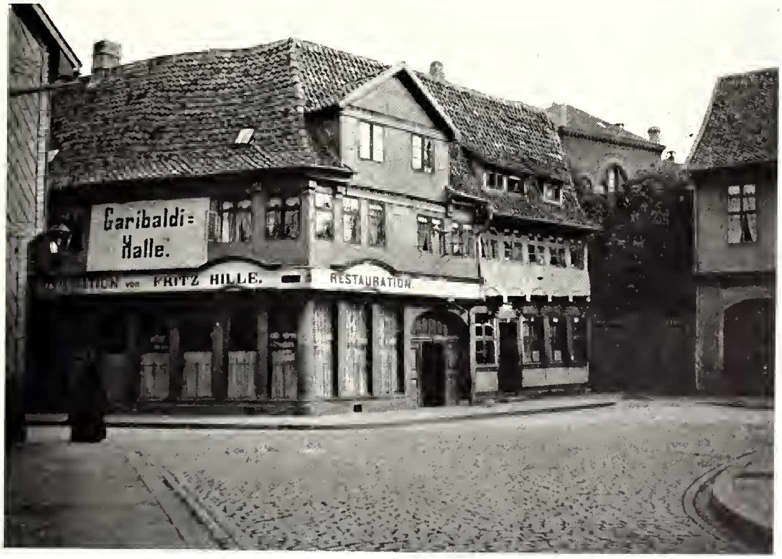
WILFRED A. FRENCH, PH.D.

LIKE Dantsic and Lubeck, this city of the Guelphs — from whom Queen Victoria and the ex-royal family of Hanover are descended — has externally preserved a marked medieval aspect, and occupies an interesting position in the history of art. In pleasing contrast to the large public buildings are numerous fine specimens of timber architecture, both of the late-Gothic and the Renaissance periods. A peculiar feature of these buildings is that the gable end instead of the front is turned towards the street.

But coming, as we did, by special appointment — for Friedrich Ritter von Voigtlænder, being a great traveler, is not always to be found at home — we promptly sought our hotel, Deutsches Haus, and apprised the chevalier of our arrival. It was not long before he was announced as coming in person to greet and welcome us, and, leading the way, he conducted us by a short but pleasant route to the optical establishment of which he is the head. We learned from the lips of Herrn von Voigtlænder something of the history of his illustrious house, which was founded in the eighteenth century. The Voigtlænder workshops were first located at Vienna, Austria, where their activities were confined to the making of spy-glasses, reading-glasses, spectacles and terrestrial telescopes, the construction of which was simple enough when compared with advanced modern technic. Later on the productions of the firm included periscopic spectacles; also Galilean field and opera glasses — the invention of Friedrich, son of Christopher Voigtlænder. The achievements of Friedrich Voigtlænder, the third head of the house, due to cooperation with Professor Petzval, were of monumental importance and form, next to Daguerre's wonderful discovery, the most interesting chapter in the history of photography. An annoying feature of the first photographic objectives was the chemical focus, which defect Friedrich Voigtlænder obviated. The chemical and visual foci thus having been rendered coincident, the matter of obtaining a sharply-focused image was greatly simplified. In view of this important service in the interest of the beautiful art and the high and unequaled excellence of his portrait-objectives, the second Friedrich Voigtlænder was the recipient of distinguished honors from the crowned heads of Europe and at the universal exhibitions held at London, Paris and other cities. The Duke of Brunswick, whose elaborate and costly monument is one of the sights of Geneva, Switzerland, conferred upon the optician the hereditary order of knighthood, which honor carries with it the privilege, universally esteemed in Europe, of adding the prefix *von* to the family name — in itself the sign of nobility. The original chevalier was also a conspicuous figure at the Court of Brunswick (Braunschweig), to which city the optical works were transferred in 1843. The present chevalier still further increased the prestige of the house of Voigtlænder & Son by introducing the Euryscope, a universal lens, the construction of which was







WILFRED A. FRENCH
QUAINT SCENES IN BRAUNSCHWEIG

due to the extraordinary properties of the Jena optical glass, brought to a remarkable state of development under the energetic direction of Professor Abbe and Dr. Schott. Thus it was that the Collinear and other lenses, uniting extreme working-rapidity with maximum sharpness of definition, and the handy Porro Prism Binoculars, came to be added to the long list of optical achievements of this famous and prosperous firm. We were struck by the utter absence of hustling energy in the workshops, or any of the usual factory features that may be regarded as objectionable. The men worked quietly, but earnestly and industriously, each an expert of the highest intelligence and skill obtainable. The works still continue the system — inaugurated nearly a century ago — of observing strict uniformity in the separate units and in the finished product. Each completed instrument is submitted to a rigid test and must conform to a high standard of excellence and efficiency — Herr von Voigtlænder personally superintending this work — before it leaves the establishment. This accounts for the fact that all the lenses of a certain size and of a given series will be found uniform in every respect, even to focal length.

Leipsic, of university fame, the largest center of the book trade in the world and the seat of the supreme imperial law-courts, and, although the third important city of the German empire, offered little that "fills the eye and expands the soul." There are, however, many landmarks of great historical interest; as, for instance, the town-hall (*Rathaus*), nearly a half century old. The *Neue Rathaus*, of noble and imposing proportions, is nearly completed, and impressed us as one of the most magnificent buildings we had ever seen. Our musical enthusiasts were reminded that Richard Wagner was born at No. 3 Bruehl-strasse, in 1813, and that the new *Gewandhaus*, of musical fame, possessed remarkable architectural beauty. We permitted ourselves to be convinced and recorded the fact photographically. According to our mental guide-book, we were scheduled to pay our respects to Nicola Perscheid, the celebrated photographer, examples of whose powerful portraiture have been published in every first-class photographic magazine of Europe, also, and exclusively, in the PHOTO-ERA among the American journals. His establishment, including his private apartments, occupies several floors and, conducted by our hospitable host, we noted everywhere evidences of culture and prosperity. Mr. Perscheid's marked artistic accomplishments, mingled with a strong and magnetic personality, have made him a leader among men, and he counts among his personal friends men foremost in German art, music and science. Of brilliant education and cultivated tastes and, above all, being an artist of sound training and lofty ideals, Mr. Perscheid interprets with astonishing success the character of his distinguished models. This rare ability enables him to occupy a commanding position among the world's greatest photographers. In spite of his industry he finds time to still further develop his tri-color process, in which field he has attained considerable success. He told us of his long-cherished desire to locate in Berlin, which city would afford him a still larger field of activity. He is now established at No. 6a Bellevue-strasse,

WILFRED A FRENCH SCHLOSS DANKWADERODE, BRAUNSCHWEIG

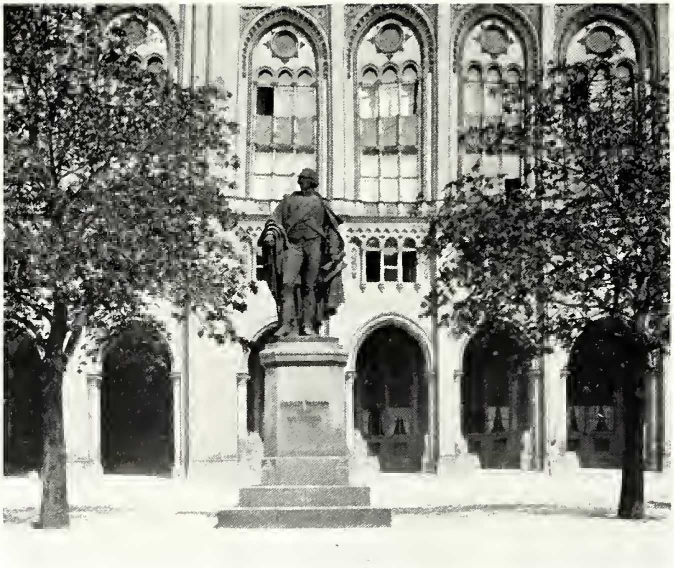
in the German capital, being peculiarly equipped to ignore conventional forms in art and to demonstrate the value of the new photography. Reports from authoritative sources indicate that Mr. Perscheid has taken Berlin by storm with his forceful portraits and that his appreciation and success have been won from the highest social circles. He has become, within the short period of one year, the *elite* photographer *par excellence* of Berlin.

The afternoon of our last day in Leipsic was devoted to a visit to the famous battlefield, a short distance from the city. The *Drei-Kaiserschlacht*, as the Germans frequently refer to it, was fought in 1813 and is, perhaps, the most prolonged and sanguinary struggle on record, nearly 500,000 men being engaged, of which less than one third were on the side of the French emperor, which great inferiority in numbers was the chief cause of Napoleon's defeat. From the Napoleonstein we obtained an excellent view of the historic plain, but passed most of our time in the neighboring *Gasthaus* to the Napoleonstein, which contains a large and interesting collection of reminiscences of the battle and other relics of the period. None of our party will soon forget the emotion with which we gazed upon the death-mask of the hapless and beloved Queen Louise, the haunting beauty of whose features will linger long in the memory.

Dresden, appropriately styled the Florence of the North, held us spellbound by its many beautiful features. Its favorable position on the high banks of the Elbe — spanned by several noble bridges — exerts a potent, irresistible charm, and the climate, mild and equable during the winter months, helps to make Dresden a favorite winter resort. While the territorial expansion of the city during the past twenty years has been extraordinary, it has been gradual and natural, and one observes a fine sense of proportion in the plan of the newer portions, particularly the English quarter. There is a feeling of spontaneity in the extension of the old city limits and no evidences of straining after effects that are incongruous or absurd. The architectural beauties are manifold, from the Grand Opera House to the Marien-Brücke crossing the Elbe. The moment we gazed from the windows of our hotel, near the Zwinger, we declared in favor of doubling the length of our stay and made preparations for propitiating the photographic muse. But while photography has successfully familiarized stay-at-homes with the gems of standard architecture, the contents of art-galleries and places of interest throughout the world, it has been of little or no assistance in revealing the wonders of such museums as the Green Vaults, where we spent several hours most delightfully. Recalling an interesting excursion I had made in 1889, to the Royal Porcelain Factory in the Royal Castle of Albrechtsburg at Meissen, a little distance up the Elbe, I induced my friends to set aside the greater portion of a day for a trip to the Königlich Sächsische Porzellan-Manufaktur. Thus they had an opportunity to observe the manufacture of the genuine Royal Dresden and learned, for the first time, the meaning of the trade-mark of the pair of crossed swords, impressed in numerous modifications on the bottom of every piece of Royal Dresden China. They were also taught to distinguish between the real Royal Dresden and imitations, made either at Dresden or Meissen, as well as the value of different pieces, dating from the various periods of manufacture beginning with the year 1710, and ending in 1796, when the glory of the manufactory at Meissen ceased. How much of this exceedingly valuable information the members of the party retained, I am unable to say, but I was told that their pencils flew with lightning rapidity. The kodaks, though charged and ready for action, were of no use on an occasion like this. Portable phonographs, as substitutes for shorthand, would have proved more useful. The time, which had never seemed more precious, slipped away almost imperceptibly between sight-seeing, photographing and the opera; still we found time to look up several local photographers of note. We called on Hugo Erfurth in the Reissiger-strasse, portraitist; Edwin Raupp, No. 30 Prager-strasse, portraitist and landscapist, and Joseph Krauss, Karcher-Allee, landscapist.

Munich, the Olympian abode of art and music! We camerists were an impressionable lot; none of us, if necessary, fit to earn our living by our noble and beautiful art. Arriving on the eve of the Wagner performances at the new Prince Regent Theater — under the personal direction of the famous Ernst von Possart — when the city was filled with music-lovers from Europe and

America and the very air charged with the inspiring strains of the master, we were in no condition to resist such captivating influences. That evening we sat in the little parlor of the Marienbad Hotel and, with cameras reposing peacefully in our laps, we held a council of war. To photograph, or not to photograph — that was the question. A unanimous vote soon decided the temporary fate of our muse, and what might have resulted in favor of half-hearted and desultory picture-taking lost the day. Our next step was to secure seats for the opera, an operation fraught with serious and quite unforeseen difficulties. The tickets had been sold by subscription and none was left. We learned from a friendly source that tickets could be hired from certain private individuals at an advance of only five marks, making the total cost of each performance twenty-five marks, or $6.25. But seeing Europe at an average expenditure of $3.00 per day was to receive a black eye; besides, most of us balked at paying an exorbitant price for an operatic performance. After giving the matter due consideration, this being our only real extravagance of the journey, those able to afford the luxury decided in favor of six operas, viz., *Tristan und Isolde*, *Die Meistersinger*, and the *Ring* — consisting of *Das Rheingold*, *Die Walküre*, *Siegfried*, and *Die Götterdämmerung*, saying to one another, like Rip Van Winkle, "Vell, I vont count dis vone." This meant earnest preparation for most of us, and much of our valuable time was spent in a desperate struggle with the intricacies of the indispensable Wagnerian texts, where the easy, practical knowledge of German of our party proved most useful, though by no means adequate. These festival performances, inaugurated several years ago and, in general excellence, quite on a par with those at Bayreuth — many qualified to judge considering them even superior — have quite proved their worth, and press-accounts have familiarized music-lovers throughout the world with the details of these standard representations. What need, therefore, to describe them anew? Suffice it to say that we were surprised, thrilled and exalted by the marvelous creative genius of the master, the majestic stage effects, the inspiring interpretations of the devoted band of artists and the classic beauty of the musical temple. While under this potent spell we photographed but little, yet found time to admire the genius of the men who have glorified Munich, visiting the Pinacothek, the Glyptothek, the Ruhmeshalle with Schwanthaler's gigantic statue Bavaria, the Maximilianeum, etc. On our way to the last-named edifice, strolling along the Maximilian-strasse, we stopped to contemplate the superb bronze figure by Zumbusch, of Benjamin Thompson, Graf von Rumford, a native American, whose career is one of the most remarkable in modern history. Born in Woburn, Massachusetts, Benjamin Thompson displayed in his early youth traits of an unusually brilliant and versatile mind. Though an ardent Tory, he offered to fight for the cause of Colonial independence, but his services were rejected. His abilities did not go begging, however, for the British government, appreciating in particular his rare executive capacity, at once sent him on an important diplomatic mission. We afterwards find Thompson at the court of Munich, where by reason of his superior mental gifts



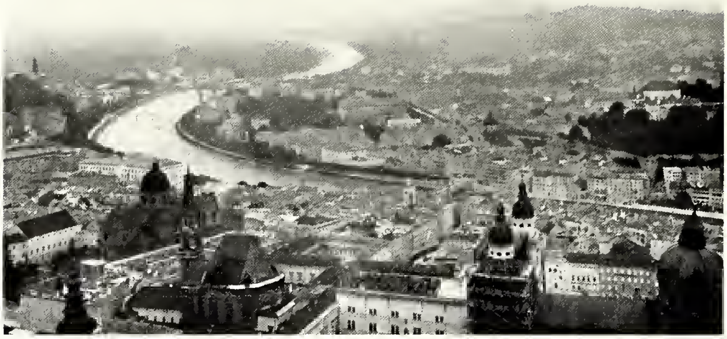
WILFRED A. FRENCH STATUE OF COUNT RUMFORD, MUNICH

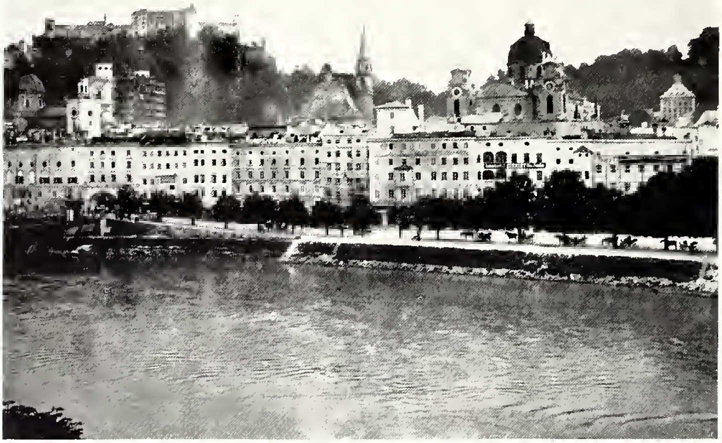
and personal attributes he attained to a position of power and influence, having been accorded high military rank and the office of councilor of state. His brilliant military and administrative genius was expressed in achievements of such importance, that he rose rapidly to the rank of lieutenant-general, commander-in-chief and minister of war. His remarkable career culminated in his being created Count of the Holy Roman Empire, when he chose Rumford — now Concord, capital of New Hampshire, where he first experienced prosperity — as his titular designation. In the versatility of his talents and the brilliancy of his performances Thompson much resembled his illustrious contemporary, Benjamin Franklin, but differed from him in political views. As a scientific investigator Count Rumford's fame rests upon his discovery of the convertibility of mechanical energy into heat. The beautiful and extensive park in Munich, known as the English Garden, attests his skill as a landscape architect. In following the lines of this statue of the brilliant American — a bronze replica of which has recently been erected in Woburn, Massachusetts — one is reminded that Thompson was a person of tall stature, a model of manly beauty in form and feature, with the bearing of a courtier.

My account of a visit to Salzburg, in 1889, so stirred my companions that it was decided to close our visit to Munich with an excursion to this lovely city, the birthplace of Mozart, just across the Austrian border. In view of the promise of a rich harvest of pictures, this was to be a truly photographic expedition. We were not disappointed, for Salzburg is said to share with Constantinople and Naples the proud distinction of possessing one of the most beautiful situations in the world and, on account of its enchanting scenery, it offers con-

ERNESTA DELSARTA-POSSART
AS FREYA IN "DAS RHEINGOLD"

stant delights to the eye. It is a veritable photographers' paradise. We ascended the old feudal castle and fortress of Hohensalzburg, rising majestically above the town, and there, within and without the historic ramparts, we fairly reveled in a feast of picture-taking, our enthusiasm spending its force only at the approach of dusk. Among the many views which we secured on that memorable day, was one from the lofty watch-tower of the Burg, with the city stretched out before us. At our very feet lay the magnificent cathedral of white marble — one of its towers in process of repair — the Residenz-Schloss, the Franciscan Church and many other prominent buildings; at the right, the extensive Capuchin Monastery, near which stands the Mozart Cottage — in which the great melodist completed his *Magic Flute* — and, beyond, sinuously coursing its way, like an enormous serpent, the River Salzach, fading away among the hills in the dim distance. With the fading light we walked past Schwanthaler's fine statue of Mozart to the Getreide-Gasse, and visited the little room on the third floor where the composer of *Don Giovanni* first saw the light of day. On our return to Munich that evening, a three-hour run by train, we voted Salzburg a success, not forgetting that this most delightful and profitable excursion had been made





WILFRED A. FRENCH
SALZBURG FROM FORTRESS HOHENSALZBURG
SALZBURG AND FORTRESS HOHENSALZBURG

at the relatively low cost of eighteen marks to each person, *tout compris*. In bidding farewell to Munich, it would be obviously unfair not to acknowledge her indisputable superiority over every city on the globe in the matter of *Lagerbier*. As brewed here, *Münchener Hofbräu* is preeminently the king of beverages; nay, it is the *Spatenbrau* or, perhaps, the *Münchener Kindl*, if not the *Löwenbräu*. We enjoyed them all, and easily became converts to the worship of Gambrinus. Since our return home we have made the discovery that these unrivaled brews, in order to be fully enjoyed, should be drunk on their native heath; for their admirable qualities suffer slight impairment from transportation across the ocean.

(*To be continued.*)

NOTES ON THE PHOTOGRAPHY OF MARINE LIFE

F. MARTIN-DUNCAN

PHOTOGRAPHING the creatures that dwell in the sea is one of the most difficult and exasperating tasks one can well attempt to accomplish. It is a branch of natural history photography which I can strongly recommend to any one who is "looking for trouble," for he will find it "right there," as our American cousins say, and plenty of it. Personally, many of the most trying experiences I have had to face and conquer as a naturalist photographer, have been in connection with marine life. Ordinary fishes are bad enough models to deal with, but the octopus, and its cousin the cuttlefish, are almost enough to turn your hair gray. In a moment they can hopelessly cloud the water in a large photographic tank, that has taken you an hour's hard pumping with a hand-pump to fill. Then there is nothing for it but to fish Mister Octopus out of the tank, run off the water, thoroughly clean every corner of the aquarium, and once more fill it from your filter-pump, and then go through the whole performance again.

But although there is such a lot of mess and bother, and so many almost heartbreaking difficulties to be overcome in the production of really striking and good work, marine photography is wonderfully absorbing and interesting, and is worthy of far more attention than it has at present received. To do good, useful work, you must have plenty of time at your disposal, a real interest in your subject, a large stock of patience, and an absolute determination to conquer all difficulties.

As regards apparatus, a good reflex camera, fitted with an anastigmat lens and focal-plane shutter, is the best type of camera for the work, as it enables one to watch and focus right up to the instant of exposure; and a very rapid orthochromatic plate, without a filter, should be used for most subjects. The aquarium that is to be used when photographing fishes and other denizens of the deep, requires careful consideration in its construction. It is important that only the very best plate glass, absolutely free from all scratches, air-bells, or other blemishes, should be used.

All rock-work, weeds, etc., must be most thoroughly and carefully washed and cleaned before they are placed in the photographic tank, to free them from all dirt and slime that would cloud the water. As there is always a certain amount of matter held in suspension in sea-water, that which is used in the photographic tank must be filtered, and for this purpose one of the rapid filter-taps will be found very useful. It is most important that the water should be clear, otherwise it is impossible to obtain satisfactory results. When the day is hot and the water in the tank cold, the glass will require to be thoroughly wiped or polished every few minutes; for it should always be remembered that unless the glass is absolutely clean and dry, it is impossible to obtain a good photograph.

In making up the background, great care should be taken that as far as possible it may closely resemble in every way the natural environment of the fish to be photographed; and at the same time, it should be as simple as can be, so as not to draw the attention away from the principal objects.

Fishes will be found to have very strong individualities, and this applies not only to various species, but to different individuals of the same kind. Therefore it is necessary to study each new specimen before attempting to photograph it. Some fishes will submit quite quietly to being handled, while others will almost go mad with fright at the least touch.

On placing a fish in the photographic aquarium, it will swim rapidly backward and forward, from one end of the tank to the other, seeking some dark, sheltered spot; or it may dash about in a great state of alarm. It is no good to attempt to photograph the fish while it is in that condition, because it would give an utterly false idea of its appearance under natural conditions. The only way to succeed is to be patient and watchful until the fish has settled down in its new surroundings, when it will sooner or later assume the desired pose and the photograph can be taken.

The would-be photographer of marine life will find that many fishes have that peculiar chameleon-like power, to a greater or lesser degree, of changing their color and markings so that they tone with their surroundings. This peculiar power, although very useful to the fish, is particularly trying for the photographer, making it difficult for him to obtain a good photograph in which the fish stands out well from its surroundings.

Apart from the animal life of the sea, its flora is capable of producing endless beautiful and interesting subjects for the photographer. Every rock-bound pool contains a rich harvest of seaweeds, exquisite alike in form and color. To the photographs of the entire plant growing in its natural environment additional interest will be added if the wonderful fruiting organs are collected, mounted in "Dean's Medium," and photographed under the low powers of a microscope. Really there is no end to the interesting work to be done along the seashore, and any one who has the patience and the time to take up this somewhat difficult and neglected branch of photography will always find plenty of subjects for his camera. — *The Photographic Monthly.*

KNAFFL, KNOXVILLE
CLYTIE

THE INTEGRITY OF THE ILLUSTRATED LECTURE

WILFRED A. FRENCH, PH. D.

WE have pointed out in these pages, from time to time, the services photography has rendered science and art, and the extent which photography in various ways serves education, will form the subject of a future article. But we wish now to invite attention, to an educational feature, which, while not in the strictest sense photographic, owes its present efficiency and importance primarily to photography. We refer to the optical lantern or stereopticon, as employed in connection with one of the most popular forms of public instruction and entertainment, viz. the illustrated lecture. It is not so much the apparatus itself, as the character of the screen-pictures — to coin a word for the illustrations projected upon the screen — that engages our attention here. Unless the giver of an illustrated lecture can place before his audience absolutely correct and truthful screen-pictures, he falls short of the task he has set himself. The injury — we will not say deception — wrought upon the credulity of a trusting and intelligent audience, when he fails to do this, is serious. The impressions, thus imparted, are naturally vivid and, therefore, difficult of speedy correction or effacement. If the audience, before whom inaccurate lantern illustrations are shown, is cultured or critical and, as is sometimes the case, as well informed on the subject as the lecturer himself, the veracity or mental equipment of the latter is likely to be questioned. Lantern-views of unimpeachable truthfulness and the greatest possible technical excellence, by makers of the highest repute of Paris, London and New York, can now be purchased or even rented at a nominal price, so that there is no excuse for withholding from even the most critical audience faultless and artistic representations of the masterpieces in sculpture and architecture, or gems of natural scenery and views from any part of the world. If the lecturer cannot trust his own judgment, let him consult an honest dealer or, better still, a reputable manufacturer of such pictures. This is where an adequate knowledge of photography is useful, either in the intelligent discrimination shown in the purchase of lantern-views or in personally making them. If the latter course is adopted and original negatives are not available, intelligent care is necessary in the selection of photographs to be copied — originals, if in good condition, are decidedly preferable — and then comes the difficult process of lantern-slide making. Lantern-views of paintings, plain or colored, are generally unsatisfactory. Dealers rarely carry them and the lecturer usually has them made by a professional lantern-slide maker. The latter's skill is generally superior to the excellence of the photographs furnished him. Photographs of oil-paintings — from the European art galleries, for instance — intended as originals for lantern-slides, should be chosen with intelligent discrimination. Preference should be given those by makers of established reputation, viz. Braun, Anderson, Brogi, Alinari and Hanfstaengl. Of course, photographs made by the isochromatic process are the best, as they possess the maximum accuracy of color values and tonal gradations. Lantern-slides made from these prints are infinitely more correct and satisfactory than the best of colored slides, at least, as made at the present time. When the trichromic process shall have been successfully applied to the production of lantern-slides, we shall probably be ready to change our opinion, but not until then. Therefore, when a lecturer of high reputation for learning and eloquence delivers before a cultivated Boston audience an illustrated lecture, assisted by screen-pictures of masterpieces of Italian art, the color of which is bad and incorrect, insisting that they are faithful copies of the original paintings, we feel duty bound to remonstrate. Some of the pictures, projected on the screen, are not made even from original photographs, but from engravings, for the reason, we suppose, that they can be the more easily colored. A large portion of the audience is certain to have traveled extensively in Europe and will, probably, recognize the inadequacy of the reproductions which they are asked to admire.

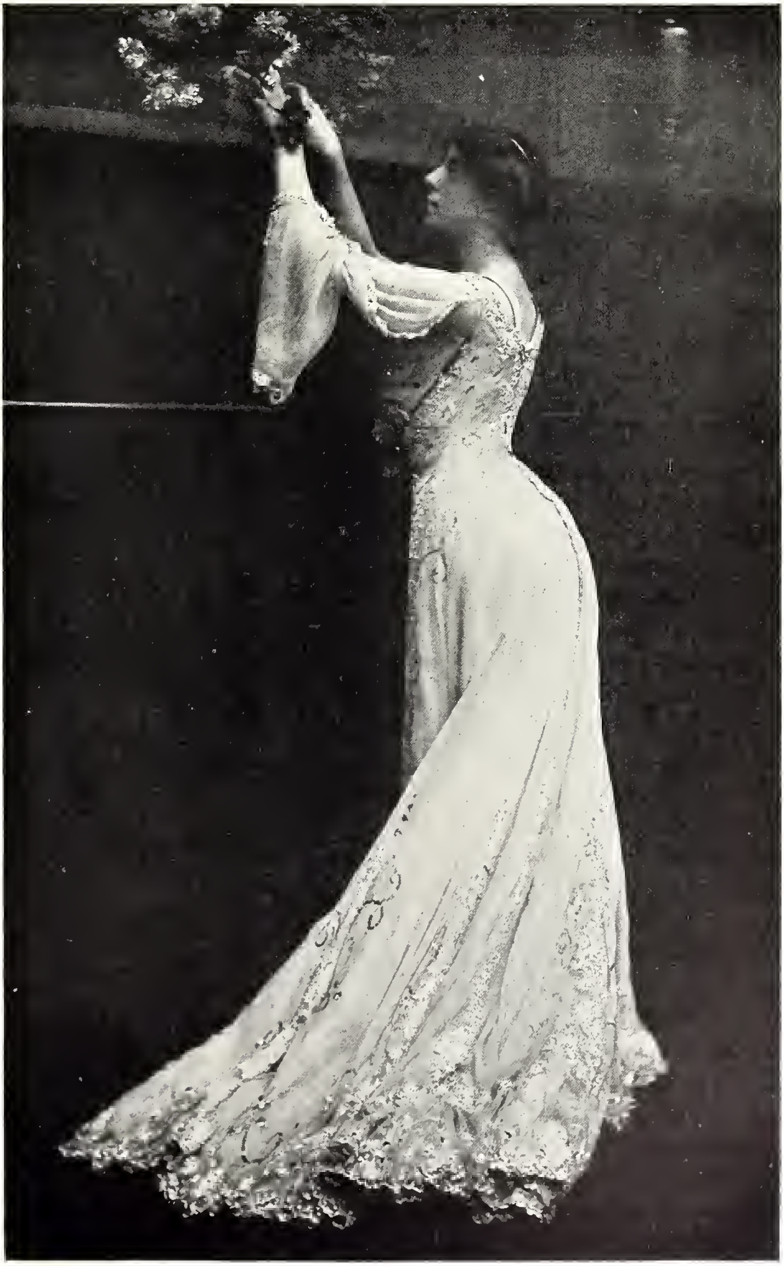
Now, when the character of the screen-picture is beyond expert criticism, as is often the case, the illustrated lecture is not only instructive and convincing, in the highest degree, but offers an ideal substitute for the object or scene represented.

THE INTERNATIONAL PHOTOGRAPHIC EXHIBITION AT PARIS, 1906

APPRECIATING the immense advance which photography — both as an art and a science — has made during the last thirteen years and since the first International Exhibition was held in Paris, in 1892, our friends in France are taking steps to organize a similar show this year. According to the preliminary circular, sent out by the committee in charge, there are no less than 280,000 amateur photographers in France, *i.e.*, so far as registered; but it is safe to assume that this represents only a part of the total number actually using cameras, as a pastime, in France at the present time. It is further stated that in that country over 70,000 persons are actually employed in connection with the various photographic industries, while the French photographic trades represent a revenue exceeding two hundred million francs or forty million dollars. According to the circular, now before us, these estimates are about twice as large as those of 1892, the date of the last International Photographic Exhibition at Paris, and, in view of this remarkable growth of photography in popularity and general importance, many eminent and influential men in France have consented to give their material support to the affair, which is to be held in the Grand Palais des Beaux Arts, situated between the Avenue des Champs Elysées and the Seine, close to the magnificent Bridge of Alexander III. The exhibition will open July 16 and continue till October 10. The scientific, artistic, industrial and commercial sides of photography are to be fully represented. Preparations have been

CURTIS, SEATTLE

A SOLITARY CHIEFTAIN



CURTIS, SEATTLE
A FOND MEMORY

made to include collections of work from every country, where photography and its allied processes are practised.

The exhibition will be divided into thirteen sections, comprising altogether sixty-three classes. The scope and extent of these will be seen from the following brief summary of the prospectus: —

SECTION I deals with the historical side of photography. SECTION II includes all applications of photography to science. In this section the exhibition is assured of support from and the cooperation of a large number of scientific institutions in France and other countries. Daily lectures and demonstrations by leading exhibitors are to be a feature.

SECTION III is for the educational application of photography. SECTION IV contains the classes that will appeal most to our readers, and will undoubtedly attract the greatest number of contributions from amateur photographers in this country. It will include amateur and pictorial photography in all its phases. Four classes are announced.

A jury will be appointed to make awards in each class or section. These awards will consist of diplomas for every exhibitor and medals or *objets d'art.*

A list of forty prominent French personages, high in the world of art and science, who have given their support to the undertaking, is printed on the prospectus. Among those are M. Berthelot, the father of acetylene, and an illustrious statesman; M. Casimir-Perier, a former president of the French Republic; M. Dujardin-Beaumetz, Minister of Fine Arts; Professor Lippmann, known to every photographic worker; M. Becquerel, of the Academy of Sciences; and Colonel Laussedat, honorary director of the Conservatoire des Arts et Métiers. This augurs well for the success of the undertaking.

Applications for full particulars and entry forms should be made as soon as possible to M. Louis Gastine, Commissaire Générale Exposition Internationale de la Photographie, Grand Palais des Champs-Elysées, or 12, Place Vaugirard, Paris.

They are: (1) Pictorial amateur photography — French and foreign schools ("foreign" includes English); (2) Photographic Societies' work; (3) Individual work by amateurs; (4) Record and Survey photography.

SECTION V will deal with press photography; SECTION VI, Professional photography; SECTION VII, Photographic publications; SECTION VIII, Photographic products; SECTION IX, Materials and apparatus; SECTION X, Photomechanical processes; SECTION XI, Industrial photography; SECTION XII, Photographic illustration work; SECTION XIII, Commercial photography.

In an exposition that seems to promise so much, we regret to learn that several of the leading manufacturers and dealers of France cannot be officially represented. The Syndical Chamber of Manufacturers and Dealers refuse to participate, and notify us that the French Photographic Society, the Photo Club of Paris, and others "will abstain from all participation in any exposition that is not official or organized by syndicates or photographic societies." We cannot understand their position, but give these facts to our readers as an item of news.

COBURN'S EXHIBIT AT THE ROYAL

GEORGE BERNARD SHAW

On Tuesday, February 6, was opened at the rooms of the Royal Photographic Society, 66 Russell Square, W. C. London, an exhibition of the photographs of Alvin Langdon Coburn, of Boston. The following appreciation of Mr. Coburn's photographs is taken from the catalogue of the exhibition and is from the pen of George Bernard Shaw: —

MR. ALVIN LANGDON COBURN is one of the most accomplished and sensitive artist-photographers now living. This seems impossible at his age — twenty-three; but as he began at eight, he has fifteen years' technical experience behind him. Hence, no doubt, his remarkable command of the one really difficult technical process in photography — printing. Technically, good negatives are more often the result of the survival of the fittest than of special creation: the photographer is like the cod which produces a million eggs in order that one may reach maturity. The ingenuities of development which are so firmly believed in by old hands who still use slow "ordinary" plates, and develop them in light enough to fog a modern fast colour-sensitive plate in half a second, do not seem to produce any better results than the newer timing system which is becoming compulsory now that plates are panchromatic and dark rooms must be really dark. The latitude of modern plates and films, especially those with fast emulsions superimposed on slow ones, may account partly for the way in which workers like Mr. Evans get bright windows and dark corners on the same plate without overexposure in the one or underexposure in the other. And as to choosing the picture, that is not a manipulative accomplishment at all. It can be done by a person with the right gift at the first snapshot as well as at the last contribution to The Salon by a veteran. But printing remains the test of the genuine expert. Very few photographers excel in more than one process. Among our best men the elder use platinotype almost exclusively for exhibition work. People who cannot see the artistic qualities of Mr. Evans' work say that he is "simply" an extraordinarily skilful platinotype printer, and that anybody's negatives would make artistic pictures if he printed them. The people who say this have never tried (I have); but there is no doubt about the excellence of the printing. Mr. Horsley Hinton not only excels in straightforward platinotype printing, but practises dark dexterities of combination printing, putting the Jungfrau into your back garden without effort, and being able, in fact, to do anything with his methods except explain them intelligibly to his envious disciples. The younger men are gummists, and are reviled as "splodgers" by the generation which cannot work the gum process.

But Mr. Coburn uses and adapts both processes with an instinctive skill and range of effect which makes even expert photographers, after a few wrong guesses, prefer to ascertain how his prints are made by the humble and obvious method of asking him. The device of imposing a gum print on a platinotype

ALVIN LANGDON COBURN FREDERICK H. EVANS

— a device which has puzzled many critics, and which was originally proposed as a means of subduing contrast (for which, I am told, it is of no use) — was seized on by Mr. Coburn as a means of getting a golden brown tone, quite foreign to pure or chemically toned platinotype, whilst preserving the feathery delicacy of the platinotype image. Lately, having condescended to oil painting as a subsidiary study, he has produced some photographic portraits of remarkable force, solidity, and richness of colour, by multiple printing in gum. Yet it is not safe to count on his processes being complicated. Some of his finest prints are simple bromide enlargements, though they do not look in the least like anybody else's enlargements. In short, Mr. Coburn gets what he wants one way or another. If he sees a certain quality in a photogravure which conveys what he wants, he naively sets to work to make a photogravure exactly as a schoolboy with a Kodak might set to work with a shilling packet of P. O. P. He improvises variations on the three-color process with casual pigments and a single negative taken on an ordinary plate. If he were examined by the City and Guilds Institute, and based his answers on his own practice, he would probably be removed from the classroom to a lunatic asylum. It is his results that place him *hors concours*.

But, after all, the decisive quality in a photographer is the faculty of seeing certain things and being tempted by them. Any man who makes photography the business of his life can acquire technique enough to do anything he really wants to do; where there's a will there's a way. It is Mr. Coburn's vision and susceptibility that make him interesting, and make his fingers clever. Look at his portrait of Mr. Gilbert Chesterton, for example! "Call that technique? Why, the head is not even on the plate. The delineation is so blunt that the lens must have been the bottom knocked out of a tumbler, and the exposure was too long for a vigorous image." All this is quite true; but just look at Mr. Chesterton himself? He is our Quinbus Flestrin, the young Man Mountain, a large, abounding, gigantically cherubic person who is not only large in body and mind beyond all decency, but seems to be growing larger as you look at him — "swellin' wisibly," as Tony Weller puts it. Mr. Coburn has represented him as swelling off the plate in the very act of being photographed, and blurring his own outlines in the process. Also, he has caught the Chestertonian resemblance to Balzac, and unconsciously handled his subject as Rodin handled Balzac. You may call the placing of the head on the plate wrong, the focusing wrong, the exposure wrong, if you like, but Chesterton is right, and a right impression of Chesterton is what Mr. Coburn was driving at. If you consider that result merely a lucky blunder, look at the portrait of Mr. Bernard Partridge! There is no lack of vigour in that image; it is deliberately weighted by comparative underexposure (or its equivalent in underdevelopment), and the result is a powerfully characteristic likeness. Look again at the profile portrait of myself *en penseur*, a mere strip of my head. Here the exposure is precisely right, and the definition exquisite without the least hardness. These three portraits were all taken with the same lens in the same camera, under similar circumstances. But there is no reduction of three different subjects to a common technical denominator, as there would have been if Franz Hals had painted them. It is the technique that has been adapted to the subject. With the same batch of films, the same lens, the same camera, the same developer, Mr. Coburn can handle you as Bellini handled everybody; as Hals handled everybody; as Gainsborough handled everybody; or as Holbein handled everybody, according to his vision of you. He is free of that clumsy tool — the human hand — which will always go its own single way and no other. And he takes full advantage of his freedom instead of contenting himself, like most photographers, with a formula that becomes almost as tiresome and mechanical as manual work with a brush or crayon.

In landscape he shows the same power. He is not seduced by the picturesque, which is pretty cheap in photography and very tempting. He drives at the poetic, and invariably seizes something that plunges you into a mood, whether it is a mass of cloud brooding over a river, or a great lump of a warehouse in a dirty street. There is nothing morbid in his choices. The mood chosen is often quite a holiday one; only not exactly a Bank Holiday: rather the mood that comes in the day's work of a man who is really a free worker and not a commercial slave. But anyhow, his impulse is always to convey a mood and not to impart local information, or to supply pretty views and striking sunsets. This is done without any impoverishment or artification. You are never worried with that infuriating academicism which already barnacles photography so thickly — selections of planes of sharpness, conventions of compositions, suppression of detail, and so on. Mr. Coburn goes straight over all that to his mark, and does not make difficulties until he meets them, being, like most joyous souls, in no hurry to bid the devil good morning. And so, good luck to him, and to all artists of his stamp.

* * *

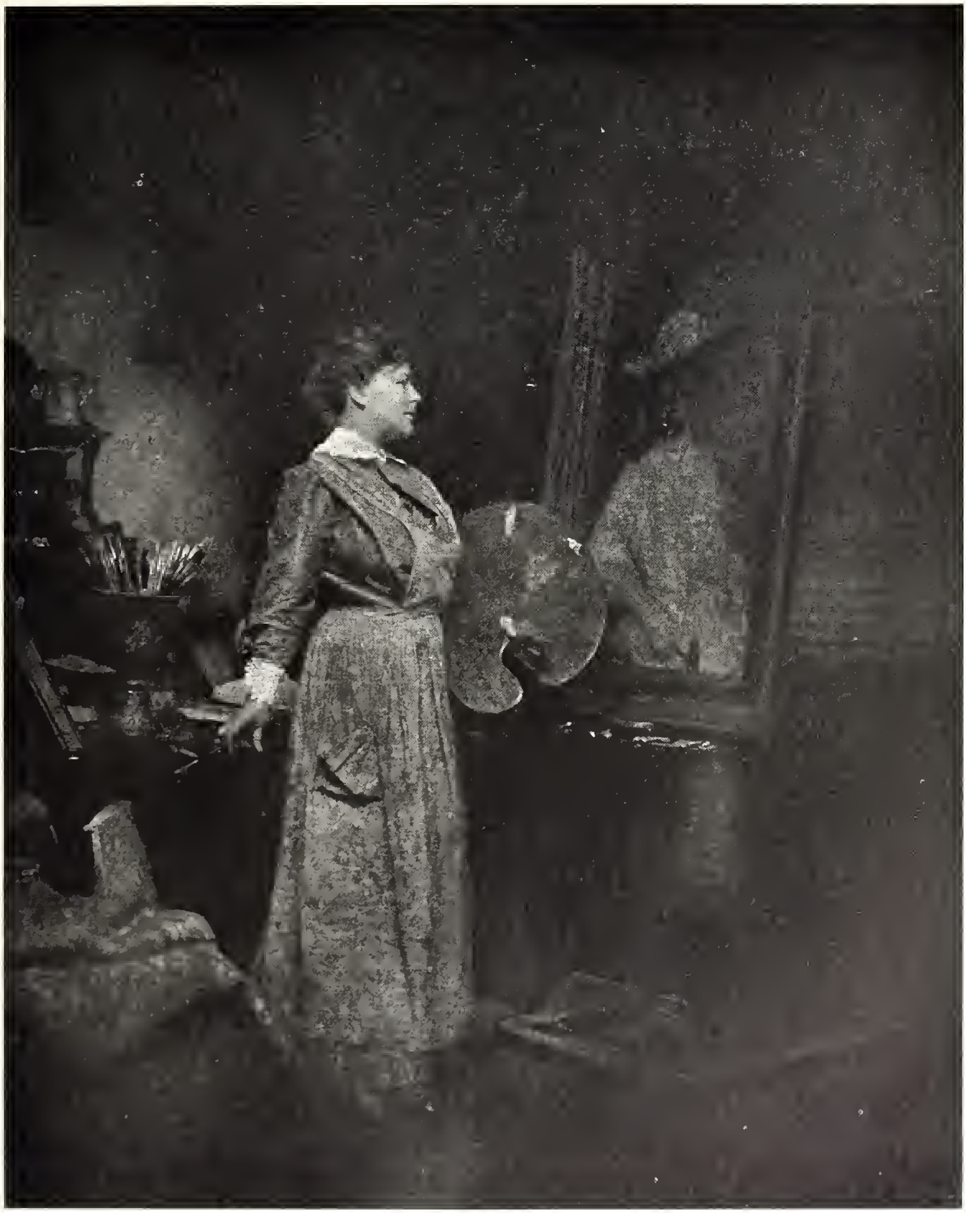
UNESSENTIAL

The thing that troubles me most, begad,
Says I to myself, says I;
The thing that I think about most, my lad,
Is why — why — why?
Why are we born to die?
And why do we fight and lie
For a little space in a useless place
That we cannot keep and we may disgrace? —
Says I to myself, says I.

I needn't trouble you then, my lad,
So answered myself to me;
The "why" don't cut any ice, begad —
The "how" is the thing, you see;
For the "why" in the case, maybe,
Will be plain when your soul's set free;
But if you wait for your final fate
To learn the "how," it will be too late —
So answered myself to me!

And it's good advice that you give, begad,
Says I to myself, says I;
For a fellow has got to live, my lad,
As sure as he's got to die.
So it's up to you to try
Your best, as the days slip by,
To do your task till the years unmask
The secret at last — and then you can ask,
And perhaps they'll tell you why!

—*Cleveland Leader.*



GOLDENSKY, PHILADELPHIA
IN THE STUDIO

COMPOSITION AND THE PHOTOGRAPHIC ART

RICHARD HINES, JR.

IN applying the principles of composition to the photographic art, the amateur need not burden himself with rules and regulations as to the proportion, amount, or location of light and shade in his picture. Good results can be as well obtained by avoiding faults as by looking for virtues, and it is rather better that the photographer should carry clearly in his mind ideas of what he should avoid, than that he should try to apply in impossible places effects of light and shade that he believes to be desirable.

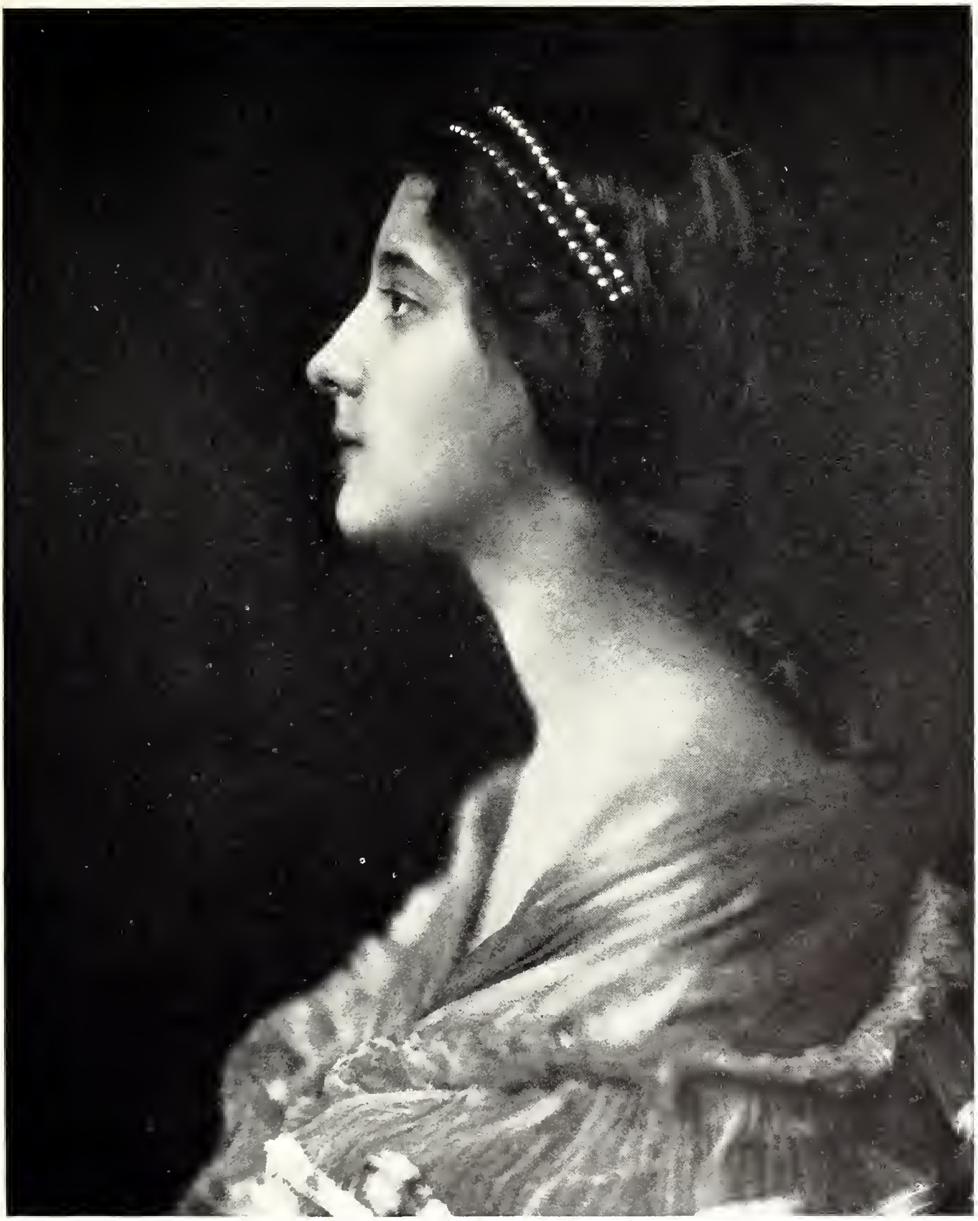
Much of value can be learned by a careful study of pictures that possess recognized artistic merit. He who acknowledges that he understands but little of the theory of composition should confine himself to the study of pictures that are recognized as good, and avoid the study of those that simply appeal to his personal ideas.

The amateur photographer usually makes pictures for one of three purposes — to commemorate an event, to illustrate a fact, or to make a picture. In the first of these, composition is rarely considered, as the occasion does not usually permit of sufficient forethought; but forethought can be given to these details, and invariably enhances their value when the results are finally obtained.

An amateur, who was desirous of securing a photograph of a fire engine going into action, carefully looked up the location of the various enginehouses and, selecting one that suited his fancy, he chose the time of day that the lighting would be proper, and calmly set up his camera to wait for a fire. This may seem ridiculous at first reading, but when it is considered that he had a definite object in view, and that he believed that the time spent in accomplishing that object was worthy of it, one may appreciate the satisfaction with which he developed his plate after he had secured what he wanted. It was necessary for him to visit the spot several days before he got the chance that he wanted, but when he released his shutter his patience was rewarded, and the result certainly justified his efforts.

The accessories were all there just as he would have them, and the picture appeared as accidental as though the idea of making it had not occurred to him until he heard the engine coming down the street. The result, however, was one that could have been obtained by no other method.

The arrangement of the average professional gallery, with its numerous devices for lighting by direct and reflected light, is not made for the purpose of securing short exposures, but for the purpose of securing good composition. In speaking of the lighting of a subject, what is meant is the composition of its light and shade. In portraiture this effect at composition is expended almost entirely upon the face. In genre work it is devoted to the whole figure and accessories. Many amateurs believe that if they can secure the figure as they desire it, the accessories may be obliterated. Such is not always the case,



COOK, PHILADELPHIA
MAIDENHOOD

however, and it is best to remove from the field of view every detail that would be incongruous with the subject. This sometimes involves a great deal of trouble, — but trouble in all work is necessary in order to accomplish good results.

In making a photograph illustrative of costume, or a character study, its value is much enhanced by avoiding the introduction of improper accessories. Often we see professional photographs of patrons arrayed in classic drapery, while the background is the conventional studio ballustrade of modern times. Even in such work, the light and the shade on the figure must be divided into pleasing proportions, or the eye will wander over the entire subject in a restless sort of way that destroys the feeling of unity. Metallic objects catch the light and produce reflections that are likely to give a mottled appearance to a figure. Where these metallic objects are part of the costume, they may be subdued by retouching, but in many cases they must be avoided by a manipulation in lighting and development.

In photography out of doors, the aim is usually to produce a picture, and as has been said before, undue prominence should not be given to any object or series of objects. It is the light and shade that please the eye, and if they resolve themselves into a series of forms the impression is still more pleasing. The artist works for impressions and not for details. Detail may be of importance on a bank note, where accuracy is a prevention against counterfeiting; but a bank note is the result of skill more than of art, although the question of composition enters herein quite as much as in some other cases.

If we see a shaded pool in the woods, or a brilliant play of sunshine in a meadow, it is the combination of the whole that makes the picture and not the meadow, the pool, or the shade or sunshine alone. Therefore, in making a photograph, undue prominence should not be given to the individual details that make up the picture.

It must not be inferred from this that a photograph out of focus is more artistic than one in focus. Where one has foreground and distance in the same picture, it is necessary that it should present itself to us as the natural subject does, with the foreground sharply defined and the distance hazy. On the other hand, where we have a picture of a figure surrounded by a landscape and the figure is characteristic of some individual or style, it should be sharp enough to preserve these characteristics, while the landscape, becoming accessory, should be softened into insignificance. Where the introduction of figures in a landscape simply give life and action to the composition, the figures themselves should not become prominent, but should simply form patches of light and shade, and play their individual or collective part in the general composition. In other words, when we make a photographic picture we should ask ourselves what constitutes the beauty of that picture. If it be the entire mass, then do not let any part of it be so detailed as to detract from the mass; if it be the foreground or figures, then let the balance of the composition fall into secondary importance.

PHOTOGRAPHY IN TAILORING

W. I. SCANDLIN

WITH the ever increasing use of photography in the sciences and economies of the world, we are apt to stop and wonder where it will next enter and revolutionize a process or method of doing work. A very valuable and thoroughly practical use to which it has lately been put, and one that is likely to be of increasing importance as its simplicity and accuracy of working become more apparent, is in the taking of measurements for tailoring purposes. Its exact and precise record admits of no error. It not only gives the measurements, but it shows beyond the question of a doubt what the cutter could never know without making tape-line measurements himself, and what he would probably forget before the garments were cut, namely, the relative proportions and peculiarities of attitude and build of the person measured. A slight deformity which might not show from tape-line measurement stands plainly depicted before the cutter in the blue-print on his bench. A peculiar stoop or other irregularity of form or figure may thus be provided for, even before the garment is tried on.

The salesman on the road takes a tape-line measurement. He makes an error; the garment is made and shipped to the customer; it does not fit him; he refuses to.accept it. As a consequence, the garment must be reshipped and alterations made. This means that the salesman must revisit and remeasure the customer, and the chances are in favor of losing his patronage for good, to say nothing of his influence among his friends. If the customer refuses to accept the garment, the agent or house is left with a misfit garment in stock.

Under the photographic system, the customer to be measured for a suit or single garment is posed before the camera at a given distance and under certain specified conditions very simply arranged. Two exposures are made upon the same plate, one immediately following the other, each half of the plate being protected from the action of light while the other half is being exposed. A negative is thus made which includes with the figure certain arbitrary rulings made to scale, and a blue-print from the same provides all the necessary data from which the complete measurements are computed by the simple rule of multiplication and division.

In this way, photographic measurements are possible not only in the tailoring establishments throughout the country for their own use, but also by salesmen on the road, agents in the country, or amateur photographers at home, and these measurements may be practically worked out by any cutter of ordinary experience and skill.

The late Dr. Humphrey, of the London *Tailor and Cutter*, in his instructions how to obtain correct measurements and descriptions, said, "Photograph your client in your mind's eye." This advice has held good for the best part of a century with the foremost instructors and designers of made-to-order garments, and is to-day a part of their business religion.

It was Mr. Gerhard Moe, of Ladysmith, Wisconsin, who first conceived the idea of photographing with a camera instead of the eye. His process, as patented, while ingenious, is also very simple. It has been in practical use in his establishment for more than a year, and has proven wholly satisfactory and far superior to the ordinary tape-line system for practical purposes.

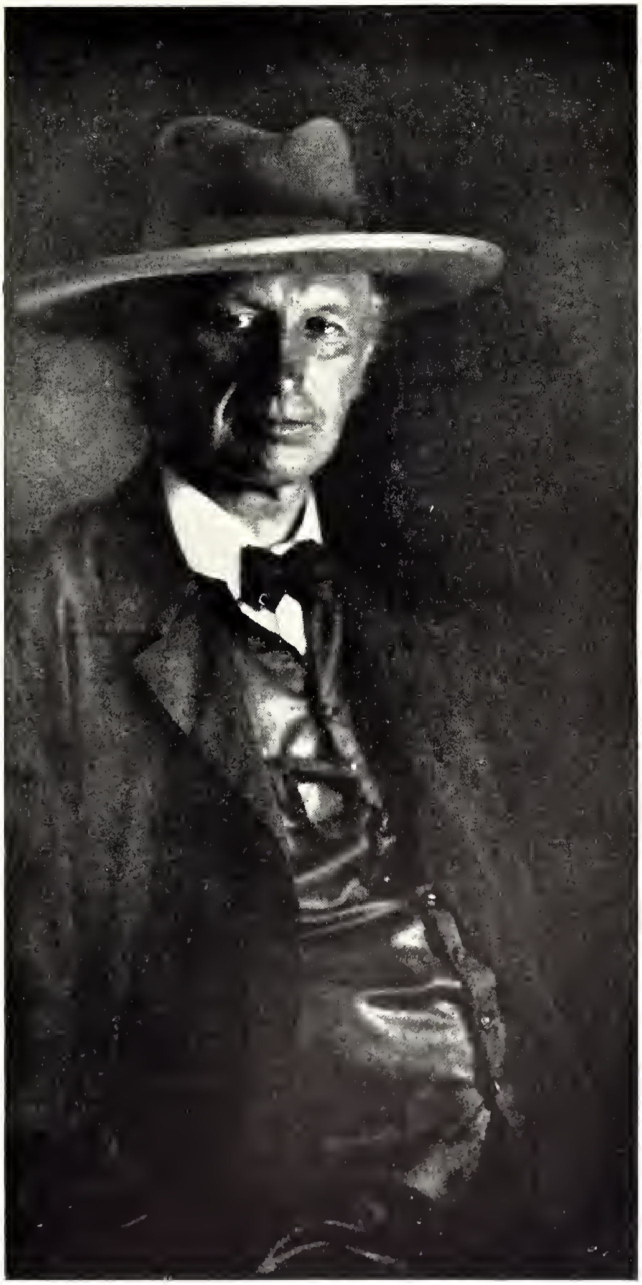
The photographic outfit necessary for successfully and accurately obtaining these measurements is of the simplest kind, consisting of an ordinary 5 x 7 camera with rectilinear lens of medium focal length. As a preliminary to the making of the measurements, the camera is first fixed in a position which it should always occupy when in use for this purpose. At a distance of from eight to ten feet from the front of lens, according to the focal length of the instrument, a line is drawn upon the floor, which represents the position always to be occupied by the subject being photographed. The proper position once being determined, a large screen strung with white silk running in opposite directions so as to form squares of exactly two inches between the threads is placed over the line previously marked on the floor, thus occuping the position later on to be taken by the subject. This screen is photographed upon the plate, and a permanent grating or screen (with squares of exactly the same size shown in the reproduction of the larger screen) is affixed to the back of the camera, immediately in front of the sensitive plate or film.

Once the size of these squares is ascertained and provided for in the camera, no matter what that size may be, the large screen is done away with, as each square shown in the succeeding photographs will represent exactly two inches on the subject being photographed, if placed in the same position before the camera. A large sheet, ruled diagonally with heavy black lines, or a fabric made up of red and white stripes, serves as a background behind the figure being photographed, and helps materially to read the markings on the finished print. At the back of the camera, inside, is arranged a hinged door or sliding cut-off, which covers either half of the plate during exposure of the other half. Thus both views of the figure are produced upon the same plate, and are made under the same conditions in every case.

By making a reproduction of the large screen on a transparent film and interposing it before the negative in the printing frame, the same results may be obtained as with the screen in the camera. It is, of course, important in all work of this kind that the size of grating used in front of the plate or film correspond exactly with the image of the large screen as it appears upon the ground glass of the camera.

A camera of any size may be used and a lens of any focal length, provided it is rectilinear, or an outfit especially prepared by the inventor which does away with the making of a special screen and grating.

Mr. Moe's efforts in the development of this interesting and commercial application of photography have been persevering and untiring and have covered a period of a number of years. The success of his method seems to be complete and its general application only a question of time.



VAN NORMAN, SPRINGFIELD
THE ELDER

SIX CAMERAS WORKING AT THE SAME TIME POPE-TOLEDO CAR

AUTO TOURING WITH A CAMERA

C. H. CLAUDY

MY right to speak rests on some thousands of miles of roads, good, bad and indifferent, mostly the second and third, covered in several different kinds of automobiles and carrying all the way from one poor little hand camera to a battery of six instruments, designed to photograph anything photographable, and some things not usually considered in that classification.

From this experience I have found out that traveling with a camera in an automobile is very much like traveling with a camera anywhere else, as far as the enjoyment is concerned, but entirely different when practice of the art is considered. And as some of my earlier results did not please either their maker or the purchaser, and you may have had at least the former experience, I hope that the commonplaces I set down here may be of some service.

In the first place, then, and in the last place also, if you do not do photographic work for profit — if you simply wish to have a record of your fun on an auto trip — don't DON'T, DON'T carry anything larger than a pocket camera. A large number of my trips have been made with the end of illustrative work in view, and consequently I have patiently lugged an eight by ten camera and a box full of plate-holders, extension bed, two or three lenses, tripod stay, extra shutters, ray screens, etc., along with it, not to mention a valise full of plates and flash-light and other impedimenta. I am continually making up my mind that the next trip I take will be *sans* camera, so that I can for once not have to bother with anything besides keeping warm and having a good time, but so far my resolution has always faded away when the big car came sliding to the door, and I have packed the outfit just the same.

Why is it such a bother? Well, it does seem as if the auto would be an ideal way of getting around the country with a heavy outfit. Yet every time it is to be used it means a stop not only of the car, but of the engine; it means unpacking and setting up the outfit, then repacking the whole thing, even if the next picture is but half a mile, and three minutes off, and the whole thing to do over again. It means that the space devoted to luggage overflows onto the legs of the other fellows; it means that personal baggage must be reduced to a pair of socks, a night shirt (ladies please skip), and a tooth-brush, and it means continual anxiety lest something gets "busted" when a "thank-you-marm" of unusual dimensions suddenly throws passengers and luggage some three feet in the air.

CROSSING A FORD   POPE-TOLEDO CAR

Finally, and worst of all, it means, on a cold day, getting chilled through. This is a paradox; but any autoist will uphold the statement that it is colder standing still than riding, on a really cold day, particularly if you have to remove heavy gloves, cap, goggles, etc., in order to get to work on the camera.

Consider the other side — how the man with the little camera can stop his car, back off a few feet, pull out the front, snap away, and zip! back into

CLEANING SPARK PLUGS BEFORE A HARD CLIMB POPE-TOLEDO CAR

the car again, without having to unpack anything, make any one else get out, or stopping the engine. Results? Of course his pictures are small, but in this era of sharp negatives from fine lenses, and cheap enlarging lanterns, what difference does it make? Why, then, do I not do as I advise? Simply because illustrative work on high-class journals demands, technically, qualities which *can* be obtained with a small camera, but which usually only come with practice and a big instrument. In other words, a small camera is partly guess work — a big one, seldom so.

At the same time, I do carry a small camera, and sometime (that mythical sometime!) I am going to carry *only* a small camera. What camera? A Graflex — smallest size and used with plates. No; I have never had a plate broken in an auto run, although what has kept that calamity from my door only the shades of Daguerre and Hero know. I recall one trip to Mt. Vernon, home and tomb of Washington, than which no worse road exists in all this broad United States. At one time we were axle deep in mud and water, at another we ran three miles over the bed of a long, dried-up stream. And we jounced and bumped and jolted and rose and fell, and spent much time in the air and the rest rubbing ourselves tenderly, and every time we rose the cameras all rose too, out of politeness, I suppose, and when we made up our minds to reseat ourselves, down would come cameras and plate boxes again, with emphasis most emphatic. I looked for every plate to end in pieces, and carried my lenses in my pocket; but I have since learned that breakage is not the evil to be feared of plates in an auto run. If they are carried upright — on edge, as plates always should be carried — they will stand an immense amount of hammering.

The main trouble with plates is their weight; next, the difficulty of changing them *en route*, and finally, their getting dusty, although if the camera is kept clean and the plate-holders carefully attended to, this last need not be a trouble.

I carry a Premo candle lamp — price one-quarter of a dollar — which folds into my pocket, gives a safe light, and is of the greatest comfort in changing plates. I also carry a repair kit for my camera, a small assortment of small tools, a box of tacks, nails, brads, odds and ends, and glue, and when I get in a hotel bedroom which leaks light at night from outside sources, a few minutes with hammer and tacks and the blankets I find on the bed makes everything tight enough for changing.

The subjects for camera work on the run are endless, although in a measure circumscribed by your foot radius from the car. First, of course, there is the car itself, in a million or so poses. Here the pictorialists snort — don't deny it, you admirer of the *Photo-Secession*, I *heard* you! But why should not

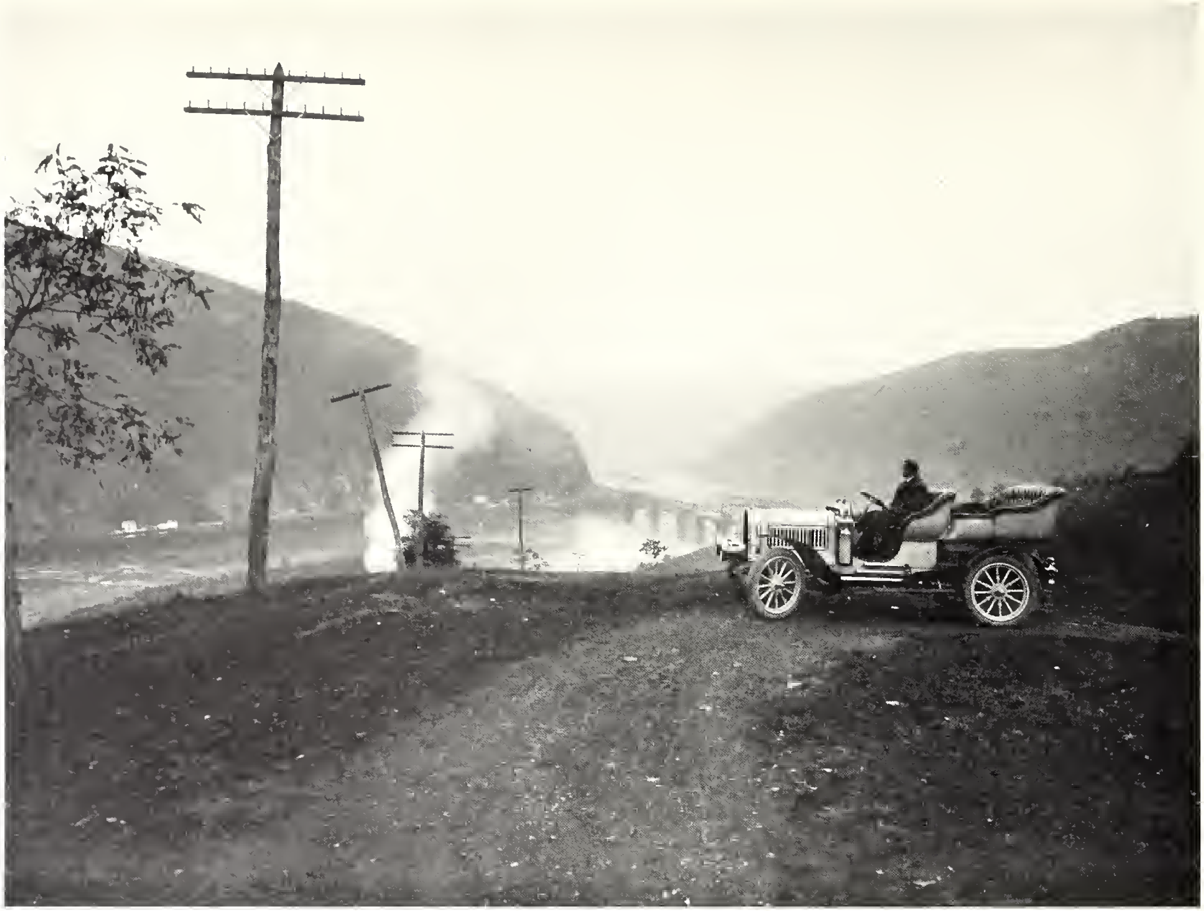
GETTING DROWNED POPE-TOLEDO CAR

a picture containing an automobile have pictorial elements? What is there inherently unpictorial in the swift machine of the road as opposed to the steam engine of the railroad? And Stieglitz himself has used this latter subject for some work which has been much admired. Now I do not pretend to be a pictorialist (did some one say "many thanks"?); I do not pretend, I say, to be a pictorialist of parts, nor a judge of the work of artists who have so much more knowledge of the game than I have. So I submit one or two examples of what may be done with the auto in an attempt at making a picture, without comment of my own, and with only the gentle hint to you that some artists, — brush, not camera — have said that they were not impossible.

However, the pictorialist isn't wanted on our auto run, anyway. Automobiles were made to make people find out that they are alive, and hunting around the country for weepy, waily compositions is a funeral business. We are on a fine stretch of road, the throttle creeps slowly around the arc, the muffler comes up with a jerk, the battery of explosions sounds a steady roar, and we are flying along at fifty miles an hour, our hands on our caps, hugging the seats, half raised up to take the jar of a sudden lurch! The air is butting our faces like a live thing; the trees fly by in a dimly-seen, picket-fence sort of procession; afar down the road we see a cloud of dust — a horse! Damn! Off goes the gas, on goes the brake, and our brief excursion to Olympus is over. Who wants to make pictures? No one. Who wants a good, clear photo of that bit of road as a reminder? Every one! Very good. Out come the cameras. Six of them. Only one sane man in the party! And that picture is worth a lot more to us than a sunset would be, car in it or not. Now, before you decry me as a hopeless Philistine, let me say that nothing in the above must be construed as antagonistic to pictorial work — merely slightly sarcastic at the expense of the man who maintains that any camera work not pictorial (such as auto touring) is of no value.

You can at times, if your chauffeur be blest with nerve, make some unusual pictures — for instance, you can, an your machine is a good one, duplicate my "Getting Drowned," in which my devil-may-care friend Hough in his fifty H. P. Pope-Toledo, — itself a devil-may-care piece of mechanism, as far as unholy road conditions are concerned, is going through a country ford at twenty-five miles an hour and taking what is coming to him with a grin which indicates his endeavor to bear it! For he was wet, wet, wet, through and through, and although for his return trip he wore a rubber coat, it was the locked door on the stolen horse, — it did not make him dry again. This was a focal plane shutter picture, of course, and I was nearly as wet from the kicked-up water as he passed, as he was. But the machine never faltered, and the engine kept dry as a bone.

Do I ride and photograph much in cold and windy weather? Indeed I do, and the worse the weather — short of a blizzard — the better time I have, usually. When it is cold — really cold, and you need a flannel shirt and a sweater and a cardigan jacket and a fur coat and motorman's mittens and pulse



THE GAP, HARPER'S FERRY

POPE-TOLEDO CAR

MARYLAND, VIRGINIA AND WEST VIRGINIA MEET HERE warmers and a knit cap and goggles and arctics and a drink every ten miles to keep from freezing into a statue, — that is motoring which is living! Dress as warmly as you think you will need to be dressed, and then put on top all the clothes you can get on, is a good rule. I have never had too many clothes on in cold weather; on the other hand, as long as feet and hands are warm, I have never failed to have a good time. I motored eighty-six miles through a blizzard of snow and hail once, half of it at night, and it stands out in my memory as few other trips do. But picture-making in such weather must be confined to the small camera, for to undress at zero enough to manage a big outfit, is more than the job is worth.

How much does a trip cost? Well, it depends, of course, on the locality and the length. I should say three dollars a day ought to feed a man most anywhere, say two more for hotel, and throw in a couple and a half more for incidentals. That makes seven fifty per day, exclusive of the machine. The machine costs in gasoline according to its horse power and in cylinder oil according to the number of cylinders and the speed, so no definite amount can be mentioned. Doubling up decreases this expense very much. I should think four men ought to go anywhere and do almost anything for twenty dollars a day, including machine, oil, gasoline, extras, everything. And be sure it is worth it, you who do not own machines — be sure, if you can get an invitation to go sometimes, that every cent you spend will come back to you a hundred fold, not only in health and freedom from care, but from a new, nameless enjoyment, 'Imotorania'' for choice, which is a compound of all outdoors, speed, pictures, irresponsibility, and contact with the elemental weather of the country. Bone some friend with a car for an invitation and see!

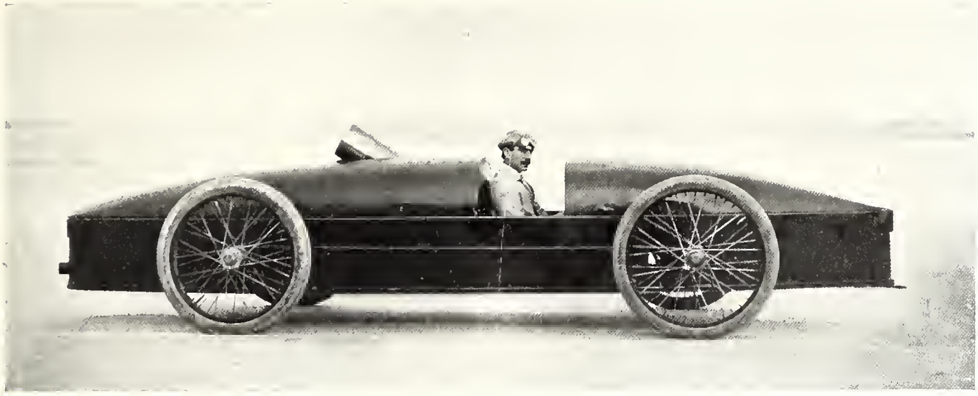
STEP UP HIGHER

ADELBERT F. CALDWELL

If to-day you've made some progress,
Do not tire.
Sit not down—upon the morrow
Step up higher!

If to-day you've felt a soul-growth,
Then aspire!
Loftier ideals still await thee,
Step up higher!
If you've seen the mountain summits
Tipped with fire;
Beyond are scenes aflame with glory,
Step up higher!

If you've heard the Master's whisper,
Then draw nigher.
There is offered life to him who
Steps up higher! —*Wellspring.*



FRED MARRIOTT IN THE STANLEY STEAMER
WHICH MADE A MILE IN THE RECORD TIME OF 28 1-5 SECONDS

THE ORMOND–DATONA RACE MEET

PHIL M. RILEY

FOR the first time in the world's history man has traveled two miles in less than one minute without the guidance of steel rails. This great distinction, as a reward for their bravery and daring, has fallen to the lot of but two men, an American and a Frenchman, the only contestants in the two-miles-a-minute time trials. Fred H. Marriott, driving a 50 h. p. Stanley steam car, accomplished the feat in 59 3-5 seconds, while Victor Demogeot, in a 200 h. p. Darracq, won the race in 58 4-5 seconds.

In the one-mile trials Chevrolet drove the 200 h. p. Darracq and covered the distance in 30 3-5 seconds, creating a new world's record for gasoline cars. In spite of this marvelous achievement, however, he was eclipsed by Marriott in the Stanley steamer, who traversed the course in 28 1-5 seconds, exceeding the fastest mile ever made by a steam railway train by 3 4-5 seconds, and coming within 1-5 second of the fastest mile ever traveled by man, which was made in 1903 by an electric railway car in Germany on an experimental road requiring the expenditure of hundreds of thousands of dollars for building and equipment.

127.6 miles per hour is an astounding speed to make on a wind-swept beach — it seems almost beyond belief; yet it is an accomplished fact. This rate of speed, maintained on a level macadam road, with the right of way which is accorded a limited express train, would cover the 913 miles between New York and Chicago in approximately 7 hours and 10 minutes. A still more amazing fact is brought to light when one considers that at this same rate of speed the distance around the world could be made in 188 1-2 hours.

Another feat which deserves more than mere mention *en passant* was that of Walter Clifford Earp in his six-cylinder 80 h. p. Napier in the one hundred-mile race for the Minneapolis Cup, which he won in 1:15:40 2-5, 2:33 3-5 better

PAUL SARTORI (A. G. VANDERBILT'S DRIVER),
MR. SPENCER AND A. G. VANDERBILT

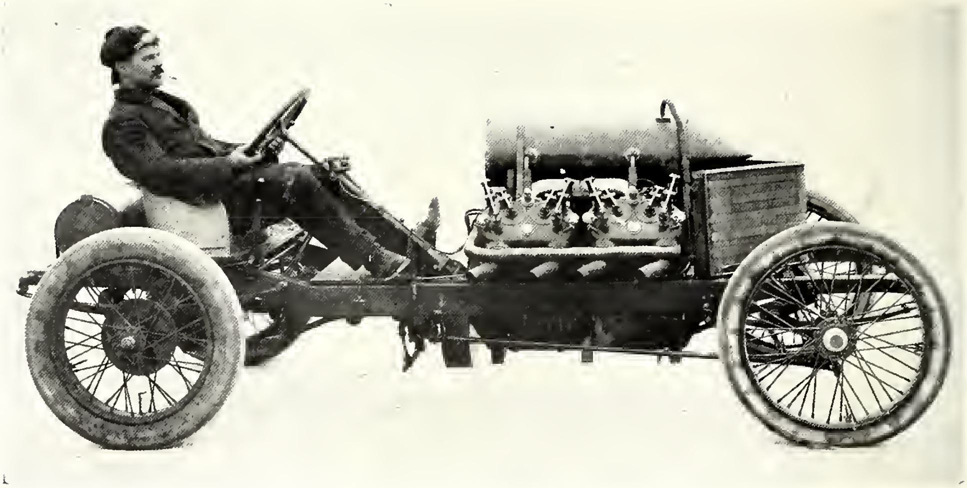
than H. W. Fletcher in a De Dietrich last year. The one-hundred-mile championship is always of interest as a test of endurance as well as of speed, and the record this year seems all the more phenomenal when one considers that the race took place over an eight-mile course, on which the cars had to be greatly slowed down at each turn; also that the beach was in bad condition and a strong wind was blowing. Of the six contestants who entered, but three finished, and the winner, Clifford Earp, drove his car on three tires for more than sixty miles.

Such are the results of the three feature events in the fourth annual racing tournament at Ormond Beach. They mean much in automobiling, particularly the one-mile trial, which gives to America, by both car and driver, the world's mile record, and also the two-miles-a-minute trial, which demonstrates that the automobile is the fastest thing on wheels. By the average person these astounding performances are regarded merely as sporting events, which startle society for a few days, furnish material for table discussion and newspaper comment, and quickly become matters of history. But their significance is far more reaching; they mean eventually the complete revolution of traffic to

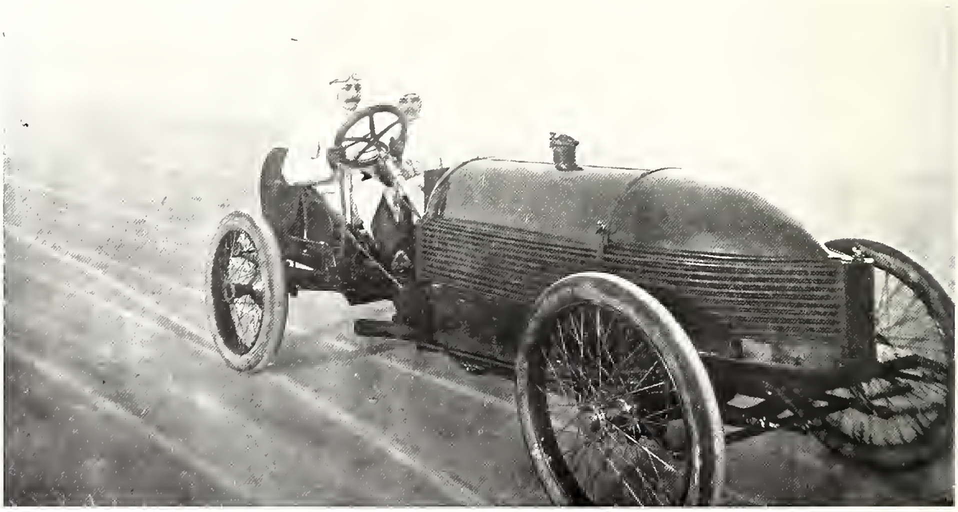
F. E. STANLEY, W. GOULD BROKAW, AND E. V. HARTFORD

a much greater and far more reaching extent than even automobile enthusiasts have yet realized.

It is true that these vehicles are but freak racing machines of little practical usefulness, but the automobile can hardly be regarded as more than ten years old, yet with the development of only one decade, a gasoline car costing only a few thousand dollars to construct races along a hard, sandy beach at the rate of two miles per minute. After many years of experiment and experience, builders of railway locomotives have not been able to turn out a speed monster which would do as well. It would seem, therefore, that these men who have, many of them, invested fortunes in racing machines, have done much more than achieve fame and secure advertising for their cars. They have pointed out the way. These races have demonstrated beyond question that the gasoline automobile possesses the inherent principle in the construction of high speed machines for use on roads or rails, which will sooner or later completely revolutionize locomotion and usher into the field of traffic a wealth of possibilities as yet undreamed of by the world at large, or by those men who are even now startling all thinking people with their marvelous speed achievements.



CHEVROLET IN THE 200 H. P. DARRACQ MACHINE
WHICH VICTOR DEMOGEOT DROVE TWO MILES IN THE RECORD TIME OF 58 4-5 SECONDS



WALTER CLIFFORD EARP IN HIS 100 H. P. NAPIER
WHICH MADE THE 100 MILE RECORD IN 1 H., 15 M., 40 2-5 SEC.

TWO SUCCESSFUL CARS AT THE RACES

F. E. STANLEY AND VINCENZO LANCIA TALK IT OVER

This principle is the almost perfect combination existing between the power plant, the transmission elements, and the running gear, which enables the ratio between power and weight and power and air resistance to be brought to a point which it has not been possible to attain in the construction of other vehicles. It does not follow that the automobile as we know it to-day will supplant steam or electric railways, but it does follow that the principles of automobile construction will inevitably become potent factors in the problem of rapid railway transportation. Railway engineers can learn far more from the achievements at Ormond Beach which will benefit the public at large, than can automobile engineers, and they ought to realize at the outset that the development of rapid locomotion is dependent more upon the improvement of road-beds than upon the speed monsters to travel over them. If the Ormond-Datona race meet has shown nothing else, it has indicated that in all probability within ten years — possibly five — mail will be carried from New York to Chicago in less than ten hours by a railway vehicle built along the lines of our present automobile construction. This is not wild prophecy.

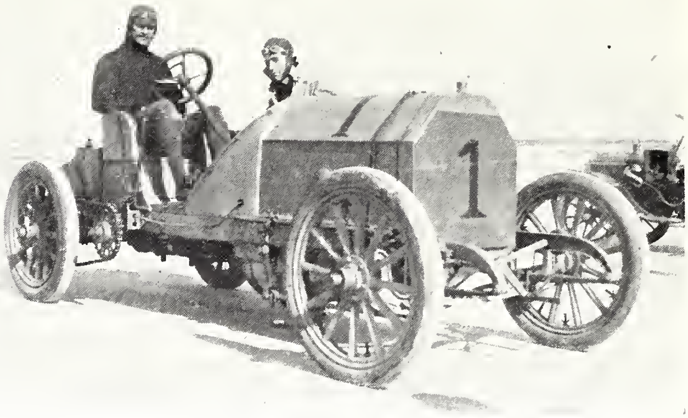
THE RACING BEACH AT ORMOND

ALFRED G. VANDERBILT'S 250 H. P. CAR

The net results of a racing meet like that at Ormond Beach are expressive of great progress to the motor enthusiast as well as the public at large, and considerable interest always centers itself about the success of the various individual cars. But twelve firms were prominently represented in the races, and of this number six were prize winners, while all made a creditable showing.

The Darracq cars, which have been so justly popular since their appearance upon the American market, carried off a large number of the awards, as in years past. To this popular firm has fallen the distinction of winning the much coveted world's record in the two-miles-a-minute time trials which Victor Demogeot accomplished in a 200 h. p. Darracq in 58 4-5 seconds, proving that this machine is unquestionably the fastest in the world for sustained speed. Louis Chevrolet also secured additional laurels with the same car in the mile and kilometer record trials for heavyweight gasoline cars, winning them in 30 3-5 and 19 2-5 seconds, respectively, both being new world's records in their classes. In the trials for middle-weight cars Guy Vaughan took the honors, establishing a new kilometer record of 25 seconds in an 80 h. p. Darracq, and also making a new record for the ten-mile middle-weight championship, all powers, in a 30 h. p. Darracq, time 7 minutes 50 seconds. To this galaxy of awards may be added the beautiful bronze statue offered by George W.

JOE AND MAT DOWNEY IN THEIR 90 H. P. MERCEDES



H. W. FLETCHER IN THE 110 H. P. FIAT

TWO PROMINENT CARS AT THE RACES

Young of New York for the ten-mile Corinthian championship, which was secured in 9 minutes 28 seconds by S. B. Stevens, driving the 80 h. p. Darracq which Auguste Hemery drove to victory in the Vanderbilt cup race.

The fine record made this year by the famous Fiat cars speaks for itself, and represents what was anticipated in automobile circles by those who had watched the standing of these machines at past racing meets. The 110 h. p. car, piloted by the lion-like Italian, Vincenzo Lancia, succeeded in carrying off six championships, viz.: fifteen-mile open championship in 10 minutes flat; ten-mile open championship and ten-mile heavyweight championship run together in 7:19 3-5; ten-mile open handicap in 6:18 2-5; one-mile heavyweight championship in 37 seconds flat; five-mile open championship in 3:1 1-5, the latter being a new record for the distance. With Cedrino at the wheel, the 24 h. p. Fiat, Jr., won the race for middle-weight cars very easily in 3 minutes 53 seconds. Later this famous driver made an excellent showing in the one-hundred-mile race, finishing second in 1:16:39 4-5, only 59 seconds behind the winner.

One of the feature events every year is the one-hundred-mile championship, and this year the distinction of winning the Minneapolis cup fell to Walter Clifford Earp, driving a 100 h. p. Napier in the record time of 1:15:40 4-5. As a test of sustained speed and endurance this record stands supreme and demonstrates that this car, although essentially a racing machine, possesses the desirable qualities of a long-distance touring car — qualities which are always well to the fore in Napier cars. Hilliard was also a contestant in this race, driving the 60 h. p. Napier, with which he established the Mount Washington hill-climbing record last summer. He finished third in 1:21:5. The 100 h. p. car, with Clifford Earp at the wheel, also secured the five-mile heavyweight championship in 2:56.

The 45 h. p. English Daimler was among the other cars which made creditable records, and in the able hands of H. N. Harding captured the ten-mile Corinthian handicap, amateur, in 8 minutes 48 4-5 seconds.

Charles Fleming, driving a 10 h. p. Maxwell, also procured honors for his car by a walkover in both the kilometer and mile record trials for light-weight cars, covering the distances in 59 seconds and 1 minute 29 2-5 seconds, respectively.

Several other cars were brought into prominence by their creditable showing, among which were the Wayne, Stoddard-Dayton, Mercedes, Christie, Ford, and Reo.

> WHAT is good is effective, generative, makes for itself room, food and allies. Is a man in his place, he is constructive, fertile, magnetic, inundating armies with his purpose which is thus executed. The river makes its own shores and each legitimate idea makes its own channels and welcome harvests for food, institutions for expression, weapons to fight with and disciples to explain it. — EMERSON.

EDITORIAL DEPARTMENT

"Nature never did betray
The heart that loved her; 'tis her privilege,
Through all the years of this our life, to lead
From joy to joy: for she can so inform
The mind that is within us, so impress
With quietness and beauty, and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, nor sneers of selfish men,
Nor greetings where no kindness is, nor all
The dreary intercourse of daily life,
Shall e'er prevail against us, or disturb
Our cheerful faith that all which we behold
Is full of blessings."

— WORDSWORTH.

NATURE IN PHOTOGRAPHY

BENEATH the surface of nature, there is a something which compels song from the heart of man the world over. It is not exactly what he knows, but what he is about to know, of nature, that furnishes the inspiration. The photographer or artist who fails to realize this relationship with her, loses just so much in life and is stunted in his growth. For, it is only when we get back to where we belong, in the fruit-laden orchards, to where the snow has a meaning for us and the springtime thrills us, that we begin to realize there is no art in landscape, marine studies, or portraiture by photography, unless it expresses some phase of nature. The most delicate flavor that a photograph can bring us is a recognition of this feeling that we ought to have for life and nature in her various moods. This is a vital point in the development of the mind. There can be no real culture, and therefore no right appreciation of landscape art and portraiture, without it. The great mass of photographs published and hung in the exhibitions to-day are mere imitations and reiterate the same story over and over again. There are endless pictures of winding rivers between meadow lands, pastures spotted with cattle, flapping sails, insignificant faces, etc., but the one picture that, now and then, fixes the attention and rises to the dignity of a masterpiece, has the

"One touch of Nature
That makes the whole world kin."

We recognize in it a new expression of life by a great mind. The note of personal interest in the picture is superseded by the wider one of the ever-changing face of nature. All the joy and the gladness, all the sunshine and shadow, this artist has made beautiful for us. His mind has felt, selected, and arranged these elements, for us, into a picture of wondrous charm; and, out of his large experience, he has given us a larger view of life which it gives us pleasure to realize.

IDEAL IN PORTRAITURE

IT has been stated that there has been no vitally new expression in portraiture for hundreds of years, and none in the painting of figures since Millet's time. While this may be true of painting, it is not especially true of photography, the handmaid of painting, which has produced some remarkable portraits from the standpoint of character study. In publishing the work of this representative group of American Professional Photographers, in this issue, we are only seeking to direct attention to the possibilities of a new ideal, in the art of portraiture, by photography. One feels, in the work of these men, the expression in varying degrees of the eternal movement in nature and all life. The new movement in American national life and character is suggested in these subjects. Yet the art influences of our day are such that many professionals prefer limitation and reiteration in their pictures to the poetry and beauty of a new ideal in their art. Our plea is for newer standards in portraiture. It calls for a finer growth in the study of nature and humanity, and presents a hard task for the photographer. He must unconsciously get all of any given subject, in his picture, lest, in a more intelligent age, life should be found wanting in it. He must so infuse truth and beauty into the subject he sees, that the future will still love and admire it.

AMERICAN JOURNAL OF PHOTOGRAPHY

THE first photographic journal ever published in the United States was started in 1850 by S. D. Humphrey, of New York, and was known as *Humphrey's Journal of Photography*. This was later followed by the *Photographic and Fine Art Journal*, edited by H. H. Snelling. Both these magazines died a natural death, in the process of time, and the subscription list of the latter was transferred in 1860 to the *American Journal of Photography*, already started in 1852 — then edited and conducted by Charles A. Seely, A.M. This latter journal, after experiencing many vicissitudes, rose to be quite a factor in the photographic world under the ownership of Thomas H. McCollin, of Philadelphia, in the early eighties. It included among its contributors such men as Dr. Emerson, H. P. Robinson, Dr. Hill, and others, under the editorial charge of Messrs. Bartlett and Sachse. In 1899 it passed into the hands of Austin C. Leeds, of Philadelphia, who later on, in October, 1900, sold the entire plant, including copyright, plates, good will, and subscription list to the PHOTO ERA. In taking over the assets of this old and highly esteemed publication, we have sought to preserve the traditions of the honored past by keeping its name standing in our pages. The old and the new, the past and the present of American photography find a fitting representative to-day in PHOTO ERA, the American Journal of Photography.

A NEW PUBLICATION

BEGINNING with April, 1906, we will issue a new quarterly publication devoted to artistic photography and planned on the broadest possible lines. It will represent, by official authority, the American Federation of Photographic Clubs and the Salon Club of America, Mr. Curtis Bell, the president, Mr. Louis Fleckenstein, the director, and other officials of the Federation being pledged to its support. The size of this quarterly will be $9\frac{1}{2}$ x $12\frac{1}{2}$ inches, and will contain, besides thirty-two pages of text on Old Stratford Book paper, from one to three photogravures or original photographic prints, about twenty half-tone plates printed on Cameo plate, and one to three prints mounted on original artist mounts, thus giving a special distinction to the book, enjoyed by no other publication of a similar character in the world. One number each year will be a special exhibition number devoted entirely to the work of the American Salon. This special number will be increased in size to include the prize pictures, and the engravings will be imprinted upon one side of the paper only, thus being suitable for detachment and framing if desired.

The name of this quarterly will be *Art in Photography*, and the price has been placed within the reach of all. The editions being limited, copies will increase in pecuniary value after a short time. Regular numbers will be sold at $2.00 the copy.

The Exhibition number will be $3.00 the copy. *On advance subscriptions by the year, if paid at once, a great concession in price will be allowed, the Four Complete Superb Numbers* being given for $5.00 (foreign subscriptions add $1.25 for extra postage). The PHOTO ERA (price $1.50) with *Art in Photography* will be sent for only $6.50 per year.

Remittance should be made by draft, money order, or registered letter, making all orders payable to THE PHOTO ERA PUBLISHING CO., 383 Boylston Street, Boston, Mass.

ALVIN LANGDON COBURN

WE are pleased to acknowledge receipt of an invitation, from the President and Council of the Royal Photographic Society of Great Britain, to a private view of the photographs of Alvin Langdon Coburn, at the society's house in London, on February 5. Elsewhere in this issue, we have reproduced a very characteristic appreciation of Mr. Coburn's work, from the trenchant pen of G. Bernard Shaw, who pronounces him one of the greatest living photographers. For personal reasons, the PHOTO ERA rejoices in the distinguished recognition that has come, at last, to this young artist. Less than six years ago, he came to our offices, a mere boy, without any knowledge of technique, unknown to fame, but showing pictures that we thought gave promise of better things.

We sat by his photographic cradle and helped to rock him into life. The inspiration and encouragement afforded by the PHOTO ERA in these early days brought him many friends and opportunities to advance, which he was not slow to improve. In March, 1903, we published an appreciation of his work in the Photo Era, which was widely copied and read. We then pointed out for the first time, we believe, the advantages to be derived from his favorite gum platinotype process — a double system of printing, first printing the platinotype and then working the gum. The principal advantage of this process seems to be a combination of the detail of the platinum, with all the breadth of the gum, in the finished result.

COBURN THE PHOTO-SECESSIONIST

MR. COBURN has founded no school in photography, nor is he the product of any school. Life has simply found a new expression in his photographic art. His work is abreast of the times, and his London triumph points the way for his fellow Secessionists in America to follow. The *Photographic News* (London) says: "It has remained for an American photographer to effect a reunion between members of the Linked Ring and the Royal Photographic Society, in the house of the latter. Mr. Coburn, himself one of the most virile of the American Section of the Ring, evidently appreciated the honor paid him by the R. P. S. by the thoroughness with which he has carried out his part of the program and the finish he has put to the entire show. He can, therefore, take it as a great personal compliment that a collection of noteworthy individuals in the world of English photography, — representing many phases of its practice either as an art or as a science — should assemble, at the inauguration of his exhibition and thus demonstrate that, in admiration of his talents and work, they meet on common ground."

A NEW PHOTO-MEDICAL DISCOVERY

AS we go to press, Boston medical circles are greatly agitated over the reported discovery by Prof. Harold C. Ernst of the Biological Department of the Harvard Medical School, of a successful method of photographing live disease germs, a feat not hitherto accomplished. Some of the papers went so far as to assert that Dr. Ernst had originated direct photography of live disease germs by means of the ultra-violet ray passed through the spectrum. Pictures were published of the distinguished scientist at work in his laboratory, his apparatus and alleged photographs of live germs, thus imparting a sensational character to the story. Calling upon the professor at his laboratory the following day, a member of our editorial staff questioned him on the truthfulness of the published reports. He indignantly styled them as unauthorized and garbled, and correct only in a few minor particulars; but just what was in accordance with fact he declined to say. Asked how soon the world should hear the extent of his researches and experiments, Dr. Ernst replied: "Just as soon as I have accomplished what I am after." In deference to the truth of the matter, the Photo Era prefers to profit by the undue haste of its diurnal contemporaries, and will publish nothing on this subject, except with the knowledge and assent of Dr. Harold C. Ernst.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the PHOTO ERA.

"REMEMBER the Alamo! Remember the Alamo!" was the war-cry of General Houston and his 763 Texans when, seventy years ago come April, they charged on the army of Santa-Anna, utterly routing it and capturing its leader, the "Napoleon of the West." Never was there a more inspiriting war-cry; never was there a more revolting cruelty to avenge.

Let us refresh our memories.

When Texas began its struggle for independence, Colonel William Travis took up arms in her behalf. He was stationed in the old mission of San Antonio de Valerio, which had been named Fort Alamo by General Santa-Anna.

Here he was besieged by General Santa-Anna, who with some 4000 Mexicans surrounded the fort, thinking it an easy matter to capture it with its little band of only 140 men. It was not, however, quite as easy as it looked. For two weeks those 140 brave men repelled their assailants and held the fort. Finally, the Mexicans, goaded to desperation by their losses, — some 1500 of their number having been killed, — made three assaults, one after the other, and in the hand-to-hand fight which followed the third assault the Texans were overpowered and slaughtered one after the other, until only six men were left, among whom were Colonel Travis, the famous Davie Crockett, and James Bowie, after whom that well-known weapon, the bowie knife, is named. These six men surrendered under the promise of protection; but when they were brought before Santa-Anna, he ordered them cut in pieces.

Is it small wonder, then, that remembering the dreadful massacre, and the fiendish cruelty visited on the six survivors, that General Houston and his men should have raised as their war-cry, —

"REMEMBER THE ALAMO!"

and still smaller wonder that spurred on by the meaning of those words the men were filled with courage that knew no retreat, and which won for them the glorious victory over that fiendish creature, Santa-Anna, and his army!

Imagine his fate if Santa-Anna's daily prayer had been, —

> "The mercy I to others show
> That mercy show to me,"

and that prayer had been answered!

General Houston did not mete out the measure to his captive that this captive had meted out to his own prisoners, but after remaining in durance for ten months, Houston released Santa-Anna and he returned to Mexico.

One would think that a building which had been the scene of such a memorable event in our history would have been most carefully preserved. But alas, such was not the case. To be sure the little chapel has been cared for and is one of the principal objects of interest to the visitor of San Antonio.

Speaking aside, if the Texans had felt as I do about Santa-Anna, they would have changed the name of the city to something else, for Antonio was the first name of Santa-Anna, and the city was named for him.

The Alamo itself was used for mercantile purposes, and was about to be sold to a syndicate to be torn down and a hotel erected on its site, — which is in the heart of this prosperous and rapidly growing city, — when a public-spirited citizen came forward with plans for saving this historical relic and preserving it to the State.

It was *Miss Clara Driscoll*, of Palo Alto, Texas, who undertook to raise the money necessary for the purchase and restoration of the old fort. We all know what a task it is to raise money, and when Miss Driscoll found that she was unable to procure the amount required, she generously purchased the building and gave it to the Daughters of the Republic and, through them, to the State.

Miss Driscoll's act of patriotism aroused the Texans to action, and at the last meeting of the Texas Legislature she was reimbursed for the money which she had spent in the purchase of the famous old fortress, the amount being $75,000, a sum which most people would look at a long time before expending it on even so grand a project.

Miss Driscoll deserves more than the gratitude of her native State. She deserves the gratitude of the nation at large for her successful efforts in saving one of the most interesting of the nation's historic landmarks.

The Historic Guild extends to her its sincerest appreciation of her work and feels itself greatly honored in that Miss Driscoll's name is now enrolled on its roster of membership.

With such members as Miss Driscoll, whose patriotism is expressed in deeds not in words, the Guild will not fail in the efforts which it is putting forth to preserve to our country pictorial records of its historic places.

There is room on our roll for many more members. Come, patriotic amateurs, link yourselves with one of the most interesting of societies. Its aim is well known, and a membership in the Guild will mean more to yourself and to future generations than even the most sanguine have dreamed about.

GENERAL AND LOCAL REDUCTION

The denseness of a negative may occur from two causes, — overdevelopment, and slightly overexposed and too rapidly developed a negative. A negative of this kind would need to be reduced uniformly all over and would come under the head of general reduction.

This is a simple process. The negative is placed in a tray containing the reducing solution, and the reduction of the film takes place evenly all over the plate.

The reducer in most general use is called Farmer's Reducer, and is the formula of Mr. Horace Farmer, an instructor in photography in the London Polytechnic Institute. It is prepared in two solutions. No. 1: Hyposulphite of soda, 1 oz.; water, 16 oz. No. 2: Ferricyanide of potassium, 1 oz.; water, 8 oz. To use, take enough of the hypo solution to cover the plate to be reduced, and add enough of the ferricyanide solution to turn the liquid a slightly yellow color. This solution works very slowly, and an occasional examination will show how far reduction has gone. When the plate is of the right density, rinse and place in a fixing bath of hypo for five minutes. Wash well and dry. If a plate is very dense, add more of the ferricyanide solution to the hypo.

Another reducer which works slowly but which will not destroy the most delicate detail in the negative is made of iodide of potassium, 75 grains; hyposulphite of soda 3¼ oz.; water, 15 oz. A plate must remain in this solution at least two hours. This reducer is also an excellent one for removing chemical fog.

A negative which has strong high lights and thin shadows requires the use of a local reducer to make a satisfactory printing negative. If the high lights are not too dense, the plate may be immersed in a solution of ammonia persulphite, — a reducer which has the quality of first attacking the high lights before beginning to affect the shadows or thin part of the negative. To use, dissolve 2 oz. of the salts in 10 oz. of water. The reduction begins very slowly; but as soon as the chemical begins to act, it works very rapidly, so that it is necessary to watch the process closely to prevent over-reduction. As soon as the dense parts are sufficiently reduced, rinse the plate and place in a bath made of a ten per cent solution of sulphite of soda. Let it remain in this bath five minutes, wash well and dry. The sulphite of soda converts the persulphate into sulphate, which has no effect on the plate. If the ammonia persulphate is not entirely eliminated from the plate, it will in time destroy the negative.

Local reduction is a reduction of some portion of the negative which is too dense, such as overexposed skies, water, white garments without detail, overexposed windows in interior views, strong high lights on the face and hands in a portrait, streaks of fog caused by light striking the plate, or sun rays entering the lens obliquely, etc. Precaution must be taken that no drop of the reducing solution touches any part of the negative except that to be reduced, and it will be found that covering all of the negative with a coating of glycerine will prevent the solution from encroaching beyond the limits desired.

Handle the negative with a plate lifter, having the glass side of the negative toward the handle. Put a small quantity of reducer in a dish, dip a camel's-hair brush in water, then in the reducer, and apply quickly and evenly to the dense parts of the negative. Rinse with clear water and apply again, until the density is reduced sufficiently. The after treatment of negative is the same as when the plate has been fully immersed in the solution.

To reduce an overexposed sky, hold the plate so that the sky part is down, dip a wide camel's-hair brush into the reducer, and with long, even sweeps draw it across the sky portion of the negative. Rinse the plate and repeat the operation. Great care must be taken that the reducer does not encroach on the horizon line. It is quite wonderful to see what beautiful detail comes out in skies which seemed hopelessly dense. The white of the clouds against the blue of the summer sky is usually overexposed, and one must overdevelop the sky in order to bring out detail in the landscape. The ammonia persulphate is an excellent reducer for overexposed skies and bodies of water.

Alcohol may be used with excellent results in removing local fog. Pour some alcohol in a saucer, draw a piece of clean chamois over the end of the forefinger, dip it in the alcohol, and rub the spot very gently. The silver is gradually removed and appears as a black stain on the chamois. When the chamois becomes black, substitute a clean place and continue the operation until the fog is removed. As the film softens under the action of the alcohol, care must be taken not to tear or roughen the film.

Before attempting either general or local reduction, it is wiser for the novice to experiment with a spoiled plate.

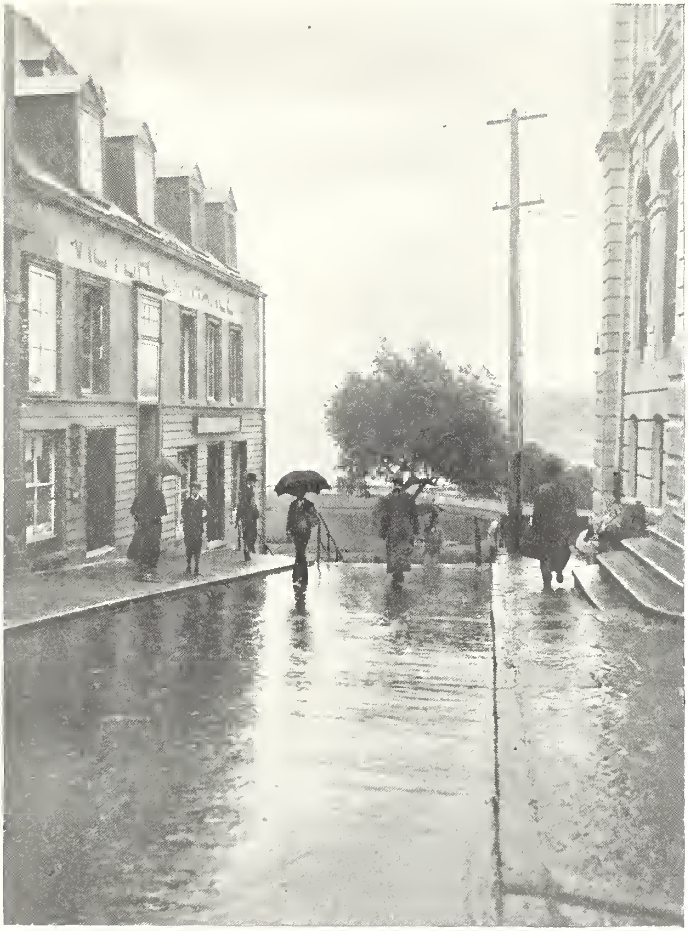
While it is more or less trouble to intensify or reduce a plate, it is worth while improving the printing qualities of a negative, and it is better to produce one good negative than twenty poor ones.

PLANS, DIAGRAMS, ETC., FOR LANTERN SLIDES

TAKE the cover-glasses used for lantern slides and flow with a matt varnish

W. F. PAYNE
FIRST PRIZE

NIGHT SCENES



C. M. WHITNEY
FIRST PRIZE

STREET SCENES

made of gum sandarac, 20 grains; gum mastic, 20 grains; methylated ether, 2 oz.; and benzol, 2½ drachms. Draw the diagram or plan on this matt surface, using a hard lead pencil sharpened to a needle point, or else a drawing pen and waterproof ink. These slides are found very useful when one is describing a building in which interior views are shown, as for instance the Alhambra, Spain, the plan thrown on the screen giving one an idea of the location of rooms.

One can use ground glass and waterproof ink, but the ground glass is usually too thick for a lantern slide. The ink if used with a fine drawing pen will be found better than the pencil, as the lines made by the ink appear solid when thrown on the screen, whereas the penciled lines are more or less broken.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00.
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts, or other photographic materials advertised by us; or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in THE ROUND ROBIN GUILD, with all its benefits, — among which the correspondence privilege probably stands first, — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is limited to subscribers to PHOTO ERA.

SUBJECTS FOR COMPETITION

February. — "Reflections." Closes March 31.

March. — "Trades." Pictures entered in this competition should be illustrative of the various employments, such as blacksmithing, shoemaking, tailoring, and the like. Closes April 30.

April. — "Portraiture." Closes May 31.

May. — "Mother and Child Pictures." Closes June 30.

June. — "Garden Scenes." Closes July 31.

AWARDS — STREET SCENES

First prize: C. M. Whitney.

Second prize: Grace E. Mounts.

Third prize: W. A. Rowley.

Honorable mention: L. S. Clough, Max A. Brunner, Thomas Marshall Burrell, Harriet Lyman, Grace E. Mounts, Florence M. Roberts, William G. Roberts, Harry D. Williar.

NIGHT SCENES

First prize: W. F. Payne.

Second prize: Monroe A. Smith, Jr.

Third prize: W. E. Morrison.

Honorable mention: Florence Marie Roberts, J. L. Gettinger, Dr. Edmund D. Jandrier, A. Eleanor Woodside, James A. Young.

ANSWERS TO CORRESPONDENTS

M. W. WYCKOFF. — By a fixed focus is meant that all objects at a certain focus and all distances beyond this focus are equally distinct or sharp. This distance varies with the focal length of the lens and the size diaphragm used. The fixed focus of a lens whose equivalent focus is four inches and the stop in use, f. 11, would be about fourteen feet, while a lens whose equivalent focus is six inches and used with the same stop — f. 11 — would be nearly thirty feet. The smaller the stop used, the shorter distance from the lens would be the fixed focus.

ELLEN J. T. — To spot prints means to paint out the white spots and to tone down the high lights on a print. Spotting colors to match the different tones of prints are sold ready mixed. A set of five colors costs 25 cents. A very convenient set of spotting colors comes on celluloid sheets, five different tones, ranging from black to light reddish brown. With these one can mix any shade desired for spotting prints.

CLARENCE JEWETT. — In preparing solutions for photographic use the dry ingredients are weighed and the solutions measured in a graduating glass. In making up a solution that called for hypo, water, and acetic acid, you would weigh the hypo on the scales, and measure the water and acid in the graduating glass. No wonder your hypo solution did not work when you measured the hypo in your graduating glass.

CAROL THOMAS. — Yes, you may enter any of the competitions in the Round Robin Guild, and you do not have to be a subscriber to the magazine. You must, however, be a member of the Guild. The statement in the January number of the PHOTO ERA that members must be subscribers was a mistake. Of course it is greatly to the advantage of the competitor to be a subscriber to the magazine. He then sees the magazine regularly and can study the work of his fellow-craftsmen. The price has been reduced, so that it is within the reach of all, while the quality of the work will remain the same that has distinguished the magazine in the past.

BERNARD F. — To clean bottles from the accumulation of sediment or deposit from photographic solutions, take equal parts of spirits of salts and water. Fill the bottle and let stand for an hour or two. Shake well, and if the glass is not clear, repeat the process. To remove varnish from bottles, put the bottle in a dish of lukewarm water and place over fire till water comes to a boil. This will soften the varnish, and a cleansing in soap or water will be the only after treatment necessary. If bottles are too much discolored, better throw them away and get fresh ones. A good-sized bottle costs no more than five cents.

B. F. Lane. — The most popular size for an all-round camera is the 4 x 5. One using both films and plates should be the choice. Film packs holding a dozen films now come with most hand cameras where glass plates are used. The pack takes up only as much room as a single plate-holder. It may be removed at any time to focus on a subject, as each film is protected from the light.

Grace D. L. — Your picture of the stars was very interesting. Perhaps I should say "star-tracks," for that is what one amateur astronomer calls them. Try pointing the camera at the North Star and make the exposure. You will find that the lines or tracks describe a circle with the North Star for the center.

James T. — You will find a heavy ferrotype plate an excellent support for drying Velox prints. Lay the wet prints face up on the plate; set the plate in a slanting position, so that the water will drain off, and the pictures will dry very quickly.

S. Gluck. — Most dealers in cameras will take an old camera in exchange when one is buying a new one of the firm. By corresponding with the camera exchanges, you can exchange your old camera for certain photographic articles you may require, such as plates, plate-holders, tripod, etc.

Roy L., Jr. — Yes; formulas often call for distilled water, but its use is not necessary for ordinary photographic solutions. If the water is not clear, filter it through two thicknesses of filtering paper, and all impurities likely to injure the solution will be removed. Distilled water is that which has been converted into steam, then by cooling changed back into liquid.

D. O. — A fifteen grain bottle of chloride of gold (C. P.) costs 50 cents. Hydrochinon and eikonogen cost each 27 cents per ounce. Nitrate of uranium costs 80 cents per ounce. Prices fluctuate in photographic materials as well as in everything else, but the prices quoted above are the present prices.

Frank Davison. — You ought to find a ready market for your photos of outdoor life in the woods. Many magazines buy such pictures, and the illustrated weeklies also are glad to get unusual pictures of wild game, birds, etc. Many papers hold weekly contests, among them being the Buffalo *Express* of Buffalo, N. Y. We shall publish in an early number a list of papers and magazines offering photographic contests.

Genie Fenton. — See the August number for 1905 for directions for removing stains from negatives. The Guild department has an article on the subject, and in it you will find a formula for removing the yellow stains on your negatives.

Helen G. — The Photo Era will shortly issue its new circulars for the year, and in them will be found a list of subjects for the year's competitions. Your work is so good you ought to be a successful competitor. We hope for many interesting pictures for the competition "Trades," beginning in March and closing April 30.

Louise D. L. — See answer to Genie Fenton on removing yellow stains from negatives.

Madison Phillips. — To reduce the prolonged exposure required for dimly lighted interiors to about 1–5 of the time that would be used with a small diaphragm, the exposure should first be made with f. 32 for five minutes, then three minutes with f. 16, and finally two minutes with f. 8. Do not reverse the method. The resulting pictures have an agreeable softness, but at the same time are sufficiently sharp. This method is of advantage when copying pictures on coarse-grained papers, as the grain is greatly reduced.

The Crucible

A GENERAL DEVELOPER FOR ALL PURPOSES

The following formula, made up in two solutions, is recommended to the amateur as a most convenient general developer for all-round purposes, producing excellent results on either plates, films, gaslight or bromide papers. Even with prolonged development it produces negatives entirely free from fog or stain. It does not stain the hands or finger nails, and is not poisonous. It keeps indefinitely, can be used repeatedly, and remains clear until exhausted.

A

Water	14 ounces
Sodium sulphite (des.)	600 grains
Edinol	120 "

B

Water	14 ounces
Sodium carbonate (des.)	600 grains

For plates and films, take 1 oz. of A and 1 oz. of B. This may be diluted if slower development is desired.

To increase contrast, take more of A than of B.

To increase softness, take more of B than of A.

For gaslight and bromide papers, take 1 oz. of A and 1 oz. of B and add enough potassium bromide (ten per cent solution) drop by drop to keep the white clear.

Overexposures can be controlled by adding 10 drops of acetone sulphite (fifty per cent solution) to each ounce of developing solution.

Underexposures. For contrasty subjects take 1 oz. of A, 1 oz. of B, and 2 oz. of water. For subjects lacking contrast take 2 oz. of A and 1 oz. of B, without adding water.

For stand development, take 1 oz. of A, 1 oz. of B, and 20 oz. of water. The temperature of this solution should not exceed 65° or 70° F. When the worker becomes familiar with the action of the developer, stand development is an absolutely reliable method of developing uncertain exposures, and is especially recommended for professionals or amateurs who have a great many negatives to develop. By varying the amount of water used, the strength of the solution may be regulated so that development will be completed in any desired time. Negatives made in this way are sure to be free from fog and stain, and are quick, brilliant printers.

TO MAKE GROUND GLASS

By following the accompanying directions with a very moderate amount of patience, one may produce ground glass with a finer grain than that which is usually obtainable. For microscopical work, when making negatives for enlarging, and other purposes, this is of considerable value. Obtain an ounce or so of fine ground emery, and have at hand four clean empty jam jars or large tumblers. Fill the first jar with water. Take a half-teaspoonful of the emery powder and stir up round and round in the water. Withdraw the spoon and watch the water until it nearly stops going round in the vessel. At this moment pour three quarters of the water into the second jar. Add a little water to this, stir up again, pour off into the third jar, and so on until we arrive at the fourth jar. Finally, empty three quarters of the contents of this into a big pie dish or basin. Then repeat the process, adding a little more emery powder. The object of this stirring and pouring off is to sift or sort out the smaller particles which are suspended in the water. while the larger ones fall to the bottom and are left behind. Then the water which is poured out of the fourth jar only holds very fine particles. The pie dish or basin is allowed to stand at rest until the fine particles are fallen to the bottom, when the water is cleared away and the fine emery mud is scooped up and put into a small, wide-mouthed bottle. Next obtain a quite flat piece of wood or thick slab of glass a little larger than the piece of glass that is to be ground. Lay a bit of damp paper between the glass and wood to prevent slipping. With the point of a knife take up a little of the emery mud and put it on the sheet of glass. Then with a glass paper weight with flat bottom, rub this mud all over the glass, using a firm, even pressure and moving the grinder or muller in a continuous kind of spiral path. The first minute or two seems to produce little or no effect, but very soon the glass will begin to show the effect. The emery mud will require a few drops of water now and again to keep it to the consistence of a rather thick cream. The work should be examined from time to time. To do this, one must wash off the emery and *dry* the glass. For when the glass is wet the grinding is all but invisible. The finer the emery powder, the finer the grain, but nothing is gained by continuing grinding when once an even grain has been obtained.

PRINTING-OUT IN PLATINUM

ALTHOUGH the finished platinum print is conceded to be the perfection of permanency, it is a well-known fact that before use platinum paper must be handled with the utmost care. Age, and above all, dampness have a marked deteriorating effect, which tends toward giving weak prints, tinted whites, and often a mottled effect over the entire surface. By enclosing the paper in hermetically sealed tubes with enough calcium chloride to absorb the moisture in the atmosphere, the manufacturers have practically overcome all difficulties on the score of dampness, but age is a more stubborn foe. Sir William Abney has tested the effect of printing-out to the full depth platinum paper which had deteriorated from the effects of age and moisture. This required about four times the ordinary exposure, but satisfactory prints were secured in both cases. After printing to the full depth required, clear in the usual bath of hydrochloric acid.

PHOTOGRAPHING A SNOW STORM

PHOTOGRAPHING a snow storm is often attempted with frequent failure, although there are many pleasing prints in existence to show that a picture of this nature may be secured if proper precautions are taken. The beginner thinks that the worse the storm the better his chances of success, but the very contrary is true, a severe storm giving only a blur of indistinctness. A picture of this kind is best made when the snow is falling slowly in large flakes, and a dark background of buildings or other objects serves to make each separate flake clearly seen. By far the most common trouble is caused by flakes of snow passing near the lens and making blurred streaks. The only way to avoid this is to photograph through an open door, window, or else set up the camera under an awning or open shed, so that the nearest flakes are at least two yards from the lens. A rapid plate should be used and the exposure must necessarily depend upon the time of day, condition of atmosphere, and the nature of the objects included. The lens should be focused on some prominent object in the foreground, and the background, being thus thrown out of focus, will add to the effectiveness of the picture by carrying out the idea of indistinctness caused by the storm.

CLEANING BOTTLES

THE ease with which a bottle may be cleaned largely depends upon our knowing what has been kept in the bottle, so that we may select a suitable solvent or detergent. For instance, if the bottle has contained oily matter, then a hot, strong solution of kitchen soda, or liquid ammonia, or caustic soda or potash will meet the case. If the bottle first contained any of these alkalies — first rinse well with water and then with a dilute acid, say one part hydrochloric acid and ten parts water. In the case of iron solutions the bottle should be cleaned with strong sulphuric acid (oil of vitriol). But care must be taken in this case not to add water to this acid, as great heat is evolved and the bottle may be broken. Dilute sulphuric acid should always be prepared by adding the acid very slowly (with much stirring, using a glass rod) to the water and not *vice versa*.

In the case of silver, gold, or platinum deposited from old toning baths, first put a little strong nitric acid into the bottle and turn it round and round in all directions for a few minutes. This will dissolve the silver. The bottle may now be emptied; then put in it equal parts of nitric and hydrochloric acids (*aqua regia*). As a general glass cleaner we may mention the following: in 10 oz. hot water dissolve 1 oz. potassium bichromate. When cold, add slowly 1 oz. sulphuric acid. This may be used over and over again. We subjoin a list of useful cleaning fluids for various contaminations.

Resin, Varnish, Lac. —First try wood alcohol, and if that fails, try a hot, strong solution of caustic potash.

Oils, Fats, and Greasy Solutions. — Any strong alkali, ammonia, caustic potash, etc.

Glycerine. — Plenty of hot water.

Tinctures. — Wood alcohol.

Spent Developers.—Strong hydrochloric acid, followed by sand and water.

Chalky Incrustation from Hard Water. — Dilute hydrochloric acid and water afterwards.

Turpentine. — Hot wood alcohol, then hot water.

Mechanical detergents, in other words, things which will rub and scrub the inside, are useful. A teaspoonful of small shot may be mentioned first. Failing that, a like quantity of sand may be used. Others prefer to break up a few cinders into small pieces. In all cases these scrubbers are used with about half a bottleful of water and patient, vigorous shaking.

WEAK PLATINUM PRINTS

WEAK platinum prints are the result of using a developer which is too cold, damp paper or weak negatives. If an undertimed or thin negative is to be printed from, strength can be gained by printing under blue glass.

A NEW STRENGTHENING METHOD

ALTHOUGH there have been many improvements in the methods of strengthening negatives, the use of bichloride of mercury and a blackening agent of one kind or another has been most used. In all the processes requiring the bleaching and redeveloping of the image, the preconceived idea that the addition of mercury, or any other metal, was superfluous, has been completely abandoned. Nevertheless, a well-known scientist, Mr. Welborne Piper, has discovered a process by which the image is simply rehalogenized without the addition of any metal and redeveloped with a resulting intensity equal to that obtained with mercury. It is a curious fact that this process had long been employed for an entirely different purpose without its strengthening action being noticed. The method is as follows: —

Bleach the image in a solution prepared exactly as below: —

Potassium bichromate . . .	20	parts
Hydrochloric acid	10	"
Water	1000	"

Leave the negative in this solution till it is perfectly uniform, with the same appearance on both sides, which will take from two to three minutes if the solution is fresh. Wash until every trace of bichromate has disappeared and expose for a moment to the strongest light possible. Then redevelop with an ordinary developer and wash for twenty minutes. The whole operation can be done in the light, and the exposure to bright light is only intended to hasten the development. If this exposure is carried too far it would produce spots in the film. All the ordinary developers seem to work equally well, but oxalate of iron is not recommended. The best, perhaps, is amidol, of a strength of 1 part to 100 parts of water and 10 parts of sulphite of soda without any bromide. It is recommended not to use bromide in any case, but rather to use a stronger and more energetic developer than for ordinary negatives. A short immersion in a hypo bath restores clearness to the negative.—A. HORSLEY HINTON *in Le Photogramme.*

ANNOUNCEMENT

The Second American Photographic Salon will be exhibited in New York by the Metropolitan Camera Club from May 28 to June 9. Officers of the club for 1906 are: President, W. T. Knox; vice-president, Dr. W. J. Furness; secretary, S. C. Bullenkamp; treasurer, J. Hunter; librarian, E. Polasek; directors, Curtis Bell, B. F. Woodburn, Jr., L. A. Malkiel, W. H. Zerbe, D. Elmes.

On Friday evening, March 9, the annual auction sale of photographic goods will be held at the club rooms, 100 and 102 W. 101st Street. A partial list of articles will be mailed on request.

S. C. Bullenkamp,
Secretary.

The Executive Committee of the Photographers' Association of Iowa held its annual meeting recently and arranged for the Sixteenth Annual Convention to be held at Des Moines, and reports that an unusually interesting program was planned. The dates selected for the convention were May 8, 9, 10, and 11, 1906.

Preliminary to the session, the committee carefully reviewed the past and anticipated the future and were gratified with the progress shown to date, and the visions of future greatness. Not only is the association in comfortable circumstances financially, but the manifestation of interest in the coming convention is assurance that 1906 will easily be the banner year in the association. The attendance promises to be large and addition to membership extraordinary. Full particulars may be had of the Secretary, G. E. Fahr, Bonapart, Iowa.

AN INVITATION TO PROFESSIONAL PHOTOGRAPHERS

The first important photographic event of the year will be the second annual meeting of the Professional Photographers' Society of New York, in New York City, April 5 and 6. This organization, although the youngest member of the rapidly growing circle of State associations, is taking the lead in the substantial movement toward a betterment of business conditions and in its solid support of the several national measures for the material good of photographers.

Its list of members contains many famous names, and these men, with shoulders to the wheels, are forwarding a movement, the influence of which is destined to be felt in every State in the Union before many months have passed.

The economic conditions as they have existed in the professional photographic field for many years, present a strange contrast to like conditions in other professions. As compared with men of equa merit and standing in other professions even those in which the members must exercise less skill and learning, the photographer is poorly paid and his standing in business and social circles, as a whole, offers an unfavorable comparison.

To discuss these conditions many prominent members of the profession have been invited to attend the meeting in April. The officers of the Photographers' Association of America, the executive boards of all the State organizations, and prominent members of the photographic press will be urged to join in the discussion.

From the multitude of counsel, this much may be expected: A brief expression of opinion from the leading minds in photography; a nucleus for future discussion between photographers individually and in photographic bodies, and a general opening of old sore spots that have gradually been passed up and forgotten, yet whose influence affects the health of the business as the hidden but deadly cancer affects the human system.

There will be no socialistic twaddle, no revolutionary sentiment; simply a calm, dispassionate dissection of causes and the wherefore; an abandonment of the long-cherished professional attitude which has hitherto forbade an open discussion of the real conditions which confront the photographer.

In the full belief that the forthcoming meeting will inaugurate a new line of thought and that the increasing power of the society will turn this thought into action, we invite photographers everywhere to join us. The list of associate members from States other than New York is already large, but there is room for many more. By becoming a member and receiving the publications of the society, you will be kept in touch with the most progressive movements and will place yourself beside the men who, successful themselves, are helping others to succeed.

Then, there is a practical advantage in associate membership with our organization. We maintain a Labor Bureau, which, in time, will be the clearing house for photographic labor for the whole country. The privileges of the Bureau may at any time become of immense value, and there is no charge other than the three-dollar membership fee.

If you can attend the annual meeting, April 5 and 6, at the Hotel Astor, New York, we will be glad to welcome you. We want the advice and counsel of all who are interested in the upbuilding of professional photography. But your interest must be genuine. There is no room in our ranks for the weak-kneed brethren; there are too many at large in the business to-day.

The dues of the society for both active and associate members is $3 a year, payable to Secretary Walter E. Talbot, Schenectady, N. Y.

Respectfully,
Dudley Hoyt,
Alvin F. Bradley,
Joseph Byron,
Walter E. Talbot,
Don C. Scott,
Executive Committee Professional Photographers' Society of New York.

WHAT IS A STUDIO LENS?

Photographers have been so long accustomed to the old types of photographic lenses, and it has been so long since there have been any radical improvements that it is little wonder that photographers have settled down to the conclusion that there is nothing new under the sun as far as lenses go. Progress has been made, however, in portrait lenses, and it behooves the studio artist to look into the new things that are being offered.

The Bausch & Lomb-Zeiss Portrait Unar has now been in use in studios for over two years, and the fact that sales are increasing steadily should indicate that this lens is a practical advance and that it does the work which is claimed for it in the studio.

Portrait Unar combines the speed and fine portrait qualities of the highest class portrait lens with the defining power of the high-grade anastigmat. Owing to the peculiar construction, it is possible to mount the systems of this lens in such a way that by means of a diffusing mechanism they can be brought close together or separated, producing, on the one hand, depth of focus and fine definition such as is required for groups and full figures, or on the other hand, the softness and modeling required for portraiture pure and simple. Neither of these qualities is secured at the expense of the other. The Portrait Unar, by means of this diffusing system, covers the whole field and is supreme in each.

The photographer who has heretofore been obliged to have an expensive rapid lens of large size for his group photographs now finds it possible to secure all the results that can be obtained with two lenses and the intermediate subjects which were covered by neither, with the Portrait Unar.

The Bausch & Lomb Optical Company, Rochester, N. Y., have issued a very interesting catalogue describing this lens, which will be sent to any address gratis on application.

GERTRUDE KAESEBIER AT THE PHOTO-SECESSION

The management of the Photo-Secession, after regaling its many friends and admirers with a choice collection of bi-gum prints of the modern French school, headed by Robert Demachy, offered at its Little Galleries, 291 Fifth Avenue, New York City, during February, a representative exhibit of the work of Mrs. Gertrude Kæsebier and Clarence H. White. We recognize among the prints of the former artist many that are familiar to every worker by half-tone reproduction in the photographic magazines of Europe and America, including — *cela va sans dire* — the Photo Era. We are always glad to see excellent prints, made by Mrs. Kæsebier herself, of such well-known subjects as "The Manger," "Blessed art Thou among Women," "Mother and Child," and others. They are recognized masterpieces and, although not recent productions, they exemplify the artist's most conspicuous characteristics — color, intrinsic beauty and emotional expression, attributes that were emphasized in Mr. Cram's worthy appreciation of Mrs. Kæsebier, which appeared in the May issue of the Photo Era, 1900. The new works happily incorporate all these valuable traits and show upon what solid foundation the work of this eminent photo-secessionist rests. A comparison between the subjects, with which Mrs. Kæsebier first leaped into fame, and her later demonstrations, obviously exhibits a gain in design, solidity, repose and feeling, although sensationalism never marred a print of this modest, scrupulous and assiduous worker. The work of Mr. White is always interesting, but, with the advantages, not enjoyed by Mrs. Kæsebier, of not following photography as a steady, daily occupation, he does not seem to show the advance expected of him. His prints, to our thinking, do not act as a strong foil against those of his sister-artist. It is like putting on the same program with Johanna Gadski an instrumentalist of good, average ability, who, although an artist in the truest sense of the word, is unable to fully satisfy or draw adequate applause.

As we go to press, we learn that the Photo-Secession expects to have upon its walls, at 291 Fifth Avenue, New York City, a collection and exhibition of architectural photographs by Frederick H. Evans, London; portraits by David Octavius Hill, R. S. A., deceased; and landscapes and portraits by J. Craig Annan, Glasgow. This exhibition is to last from February 21 to March 7, the galleries being open from 10 A.M. to 6 P.M. daily, Sundays excepted. Mr. Annan contributes eighteen prints and Mr. Evans thirty. Mr. Hill is represented by nineteen prints, representing the pictorial photographic work of that famous Scotch painter and photographer.

Many amateur photographers who are on the lookout for opportunities to make their hobby yield a little revenue, will be interested in a small advertisement elsewhere in this issue calling for pictures of children, illustrating plays and games or child activities and interests of any sort. Good pictures of huts and camps, animals and pets, infants creeping, and winter sports for children are desired. A set of pictures of this nature will be carefully selected to illustrate a most interesting book soon to be issued by a well-known Boston publisher.

For photographing street scenes and all other views in which rapid movement and animation are the keynote, no hand camera has ever been designed to sell at small cost which fills the bill so absolutely as the 3B Quick Focus Kodak, which has just been placed upon the market. The ability to focus quickly and accurately is the great feature of this instrument, and in addition it possesses all of the other good qualities which are characteristic of the other kodaks.

HARVARD CAMERA CLUB

The annual exhibit of the Harvard Camera Club was held in the museum room of Robinson Hall, January 10 to 22. The total number of prints was less than in former years, but the quality of the whole was higher. One hundred and thirty-eight prints were shown by sixteen exhibitors. Mr. Philip P. Sharpless, a former president of the club, and Mr. Harold B. Warren acted as the judges. The latter kindly gave a very interesting talk on the pictures the evening of January 19, after which the meeting adjourned to the rooms of the president for refreshments.

Prizes were awarded as follows: First, for the best group, to Dana F. Dow, who showed twenty simple but strong landscape compositions, printed on platinum paper of his own manufacture — an iron printing-out paper developed in a platinum bath; second, to Mr. Thomas W. Sears, for twenty-two of his splendid landscapes, most of which are, perhaps, excessively brilliant; and third (an innovation this year), to Talbot Howe, a new and very promising man. Honorable mentions for single pictures were given to E. H. Gruening, "Venice"; H. F. Kellogg, "On Lake Lugano"; E. J. Wendell, "In the Mountains"; Clarke King, "A Narrow Street in Venice"; and Albert H. Moore, "View across the Guaire, Venezuela."

The club this year is in a very prosperous condition, and every one is working hard to make the Intercollegiate Exhibit, which it is hoped this year will be three or four cornered, the greatest success of all. The first view will be in Cambridge early in April.

PHOTO-SECESSION CALENDAR OF EXHIBITIONS

February 21 to March 7, British Exhibition No. 1. Photographs by J. Craig Annan, Glasgow; Architectural Photographs by Frederick H. Evans, London; and a collection of photographic portraits made sixty years ago by D. O. Hill, R. S. A., of Glasgow. Mr. Hill was the actual pioneer of modern pictorial photography.

March 9 to March 24. Photographs by Eduard J. Steichen, New York. The exhibition will include the photographer's experiments in color-photography.

March 26 to April 3, "Salon des Refusés." A collection of paintings, by American painters, that have been refused at the Society of American Artists, National Academy, Carnegie Institute, and Pennsylvania Academy of Fine Arts Exhibition.

April 5 to April 23. Multiple Gum-prints by German and Austrian Photographers. Hans Watzek (deceased), Vienna; Hugo Henneberg, Vienna; Heinrich Kühn, Innsbruck; Theodore and Oscar Hofmeister, Hamburg.

April 25 to end of season. General exhibition of work by members of the Photo-Secession.

These exhibitions are open to the public daily, Sunday excepted, from 10 A.M. to 6 P.M. A visiting-card admits.

An interesting fact in the construction of Low shutters is that they are designed upon the balance principle, which requires that every shutter be in perfect poise when exactly halfway open. In this manner the dead weight of the wings in a Low shutter is entirely eliminated, both in opening and closing. On this account the wings always respond instantly to the first portion of the bulb pressure, requiring but a fraction of the power needed to operate an ordinary shutter. No other shutter is so designed as to take care of the dead weight or inertia of the wings and working parts. This is one reason why Low shutters work swifter, smoother, and easier than all others.

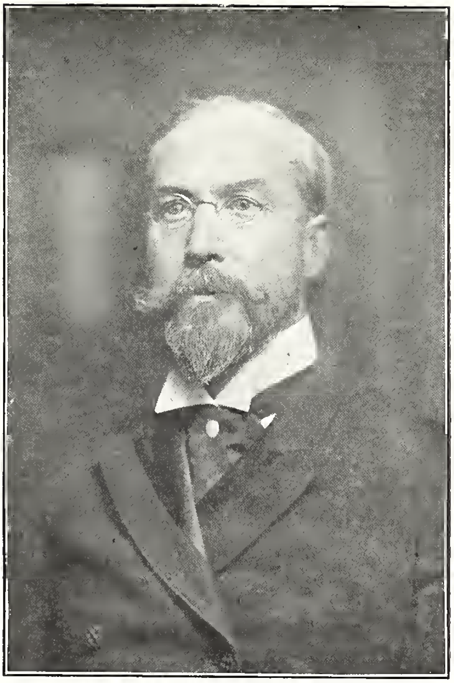
From the Champion Paper Co., Hamilton, Ohio, we have received the second number of *Pure White*, a monthly magazine devoted to paper progress, and we feel justified in saying that this firm has set a standard of excellence which other manufacturers would do well to emulate in their trade journals. The cover design of the January issue is particularly attractive; in fact, it ranks with the finest work in high-class magazine cover designing, and is one of the most striking and original ideas we have seen for some time.

With this issue of Photo Era the Eastman Kodak Company announces the appearance of the Kodak Dry Mounting Tissue, a new product which solves the mounting problem and therefore becomes the greatest benefit to photographers which has appeared in the photographic field for some years past. By this new process the thinnest of mounting papers may be used without danger of curling. Thus double and triple mounting, which is productive of such charming effects, may be employed with the assurance that all of the underlays will lie perfectly flat, with the print entirely in contact. The tissue is perfectly dry and not sticky to handle, so that neatness in mounting is assured, and no time is lost in drying, as is the case with paste mounting. The process is simplicity itself, a hot flatiron being the only apparatus needed; the price is nominal, and no photographer, amateur or professional, can afford to be without a supply of this tissue.

The Second American Photographic Salon, which was held at the Carnegie Art Galleries, Pittsburg, Pa., from January 12 to 28 inclusive, under the auspices of the photographic section of the Academy of Science and Art of Pittsburg, met with great success.

The Salon aroused great interest among the people, which was shown by their repeated visits.

The exhibition was viewed by 9683 persons, by actual count. In one day the attendance was 2996 persons. This is believed to be the highest record of attendance at any photographic exhibition.



E. G. MERRILL
PRESIDENT, LENS AND BRUSH CLUB

On Monday, February 5, the regular annual meeting of the Lens and Brush Club was held at the new offices of the Photo Era, 383 Boylston Street, Boston. The reports of the secretary and treasurer showed the organization to be in a good social and financial condition. The annual election of officers was held, and resulted in the choice of E. G. Merrill, of Salem, for president; James Stuart Compton, vice-president; E. J. Dunham, secretary; and W. John Searle, of Everett, treasurer. The plans for the ensuing year include a series of lectures by distinguished artists and a public exhibition of the work of the club.

ETCHOGRAPH PLATES

W. Jay Little has invented an etching plate for photographers. The etching reproduced in this number, "Boatmen of Barcelona," was etched by Mr. Little on an etchograph plate, and was done by placing the plate over a photograph of the

ETCHOGRAPH BY W. JAY LITTLE
From a Photograph of the Painting BOATMEN OF BARCELONA

painting, and shows how any one can make an etching. The etchograph plate was patented Jan. 17, 1905, and covers the idea of a transparent non-actinic etching ground on a transparent base. So it can be readily seen that any one without a knowledge of drawing, perspective, or composition, can etch a plate by simply placing the plate over any subject and tracing with a needle, and then printing from the plate in any light and on any photograph paper as with any negative. The thin plate, No. 3, is made especially for portrait photography, and can be placed over the negative and printed together; the thickness of the celluloid etchograph plate softens the hard lines of the subject, besides giving a tone to the whole photograph by the beautiful stipple effect of the non-actinic etching ground; or the ground can be scraped off in places in the background, a tree or landscape can be drawn, and the plate can be used over and over again, which is a decided advantage over painting a background on the negative.

We have, during the past year, received a number of letters from our subscribers congratulating us upon the covers used for Photo Era, not only in the matter of design, but also as regards the paper. We are glad that the covers have been pleasing, as in the selection of them it has been our endeavor to use such papers as would not only fulfil their duties satisfactorily for cover purposes, but be suggestive from the photographic standpoint as well. It also has been the effort of the Mittineague Paper Company, of Mittineague, Mass., who are the manufacturers of the various papers used, to cooperate with us and to give in their advertisement each month complete information in regard to the cover used, and to supply sample books showing the various lines to all who desire them.

We would like at this time to call particular attention to this and last month's covers, which show two colors, brown and buff respectively, crash finish, of the Old Stratford Parchment Covers, and those of our readers who have secured a sample book showing the complete line must have been impressed with the wonderful possibilities of these covers for mounting and folder purposes. It is a line that has no duplicate on the market, which fact, together with its other essential qualifications, offers opportunities for work of individual character.

The new store of Percival Carmichael, 13½ Bromfield Street, Boston, continues to attract attention as a center for photographic supplies. The stock of plates, paper, cameras, and lenses is one of the best and most complete in the city. A cordial invitation is extended to every amateur and professional to visit this store, where they will receive prompt and courteous treatment.

PHOTO ERA THE AMERICAN JOURNAL OF PHOTOGRAPHY

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Contributions relating to photography in any and all of its branches will receive our careful consideration. While not accepting responsibility for unsolicited contributions, we will endeavor to return them if not available, provided return postage is enclosed.

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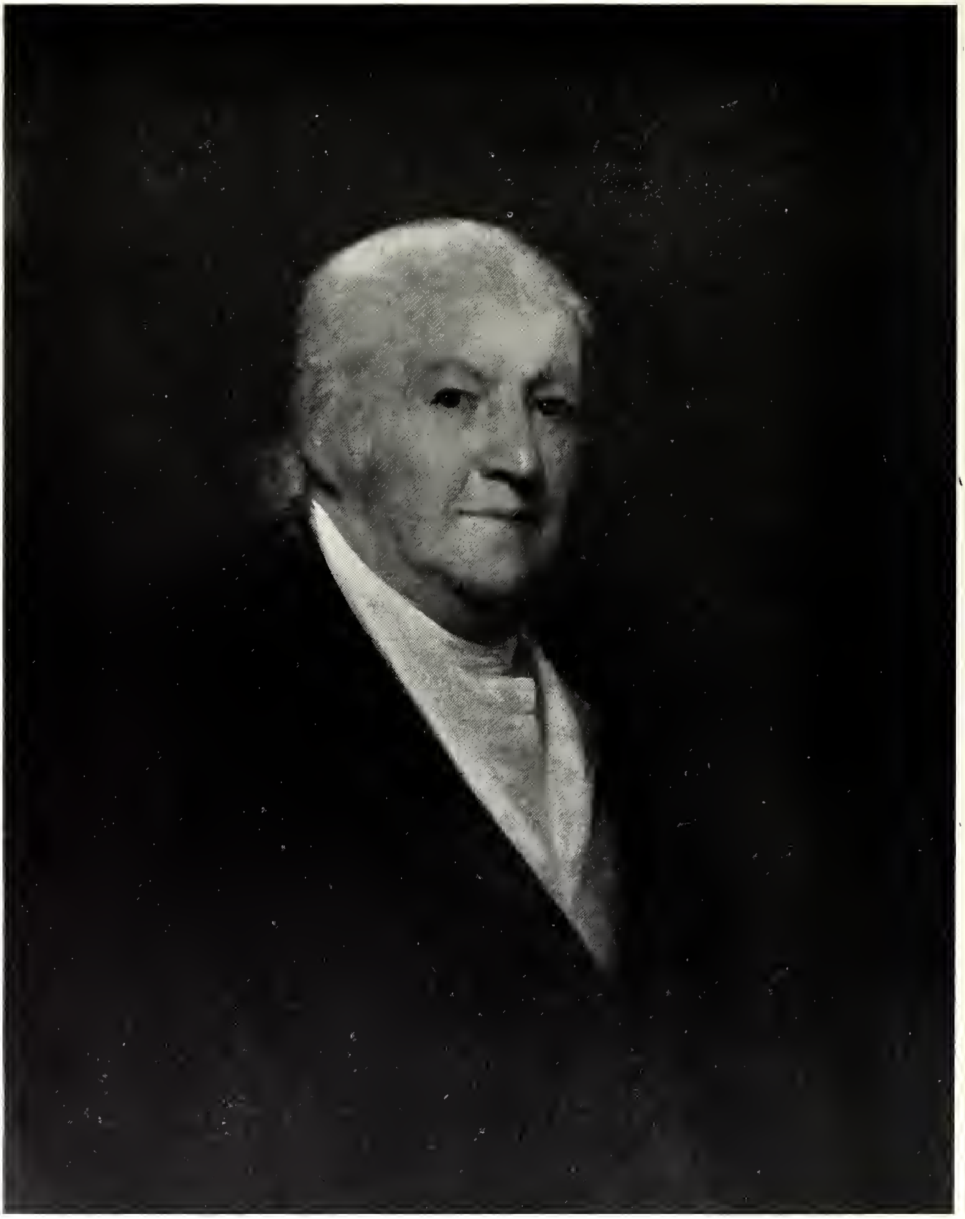


GILBERT STUART'S PORTRAIT OF PAUL REVERE
PHOTOGRAPH BY HERBERT W. TAYLOR

PHOTO ERA
The American Journal of Photography

VOL. XVI   APRIL, 1906   NO. 4

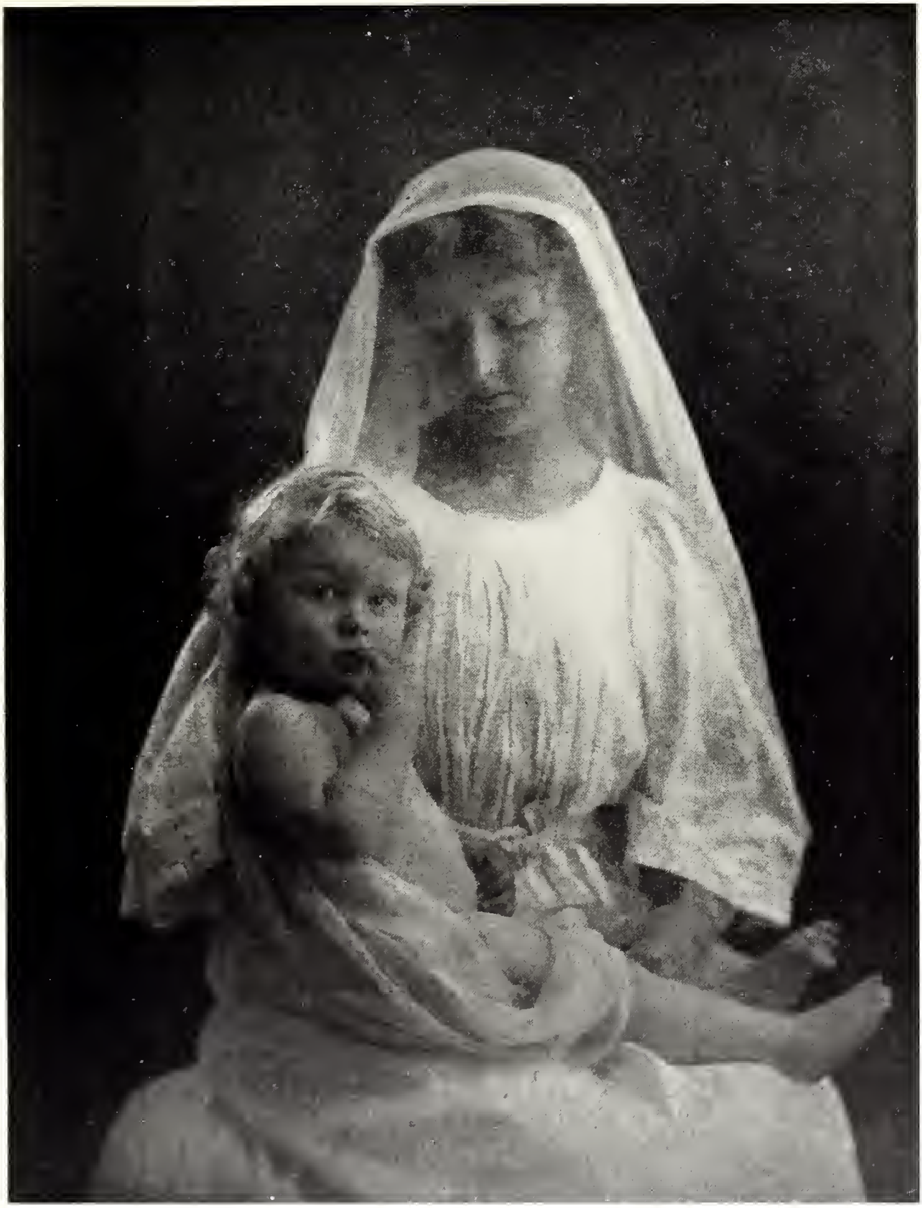
GEORGE H PAINE   APPLE BLOSSOMS

THE PROVIDENCE, R. I., PORTFOLIO OF PRINTS

THOMAS HARRISON CUMMINGS

IN all the arts there are certain conventions that are generally accepted for success. For instance, in music there are the scales, chords and harmonies which, if they are wanting, turn the composition into discord and noise. So also in painting, if the conventions are wanting, the painting falls down. Photography and painting have much in common, since both turn to the same source — Nature — for inspiration and material. To produce pictures, whether paintings or photographs, which shall be artistic, both have to face the same difficulties. Both follow the same rules in composition, and the arrangement of light and shade, both portray the grandeur and beauty of Nature, and both are dependent upon the skill and knowledge of the artist for success. Sir Wm. B. Richmond, R. A., says that "Photography has been, no doubt, a medium of instruction and benefit to painters as well as to the public. Photography reproduces everything, good, bad and indifferent. But for those who know how to choose, what to take and what to reject, light is an admirable master; for others it may prove a stumbling-block." These words of the distinguished Academician who speaks of art as a painter, from the purely pictorial and decorative side, are full of encouragement for the photographer. They emphasize anew for us the necessity of acquiring an artistic education for success in picture making. A glance at any of the representative work of our photographic exhibitions to-day will soon convince us that what is most needed for the advancement of photography is a more artistic appreciation on the part of the workers. Many prints which are entirely satisfactory from the photographer's standpoint are frequently marred for want of a little judgment and taste in balance or composition. On the other hand, there will frequently be found excellent specimens that bear abundant witness to the artistic instinct of the workers. By careful selection, feeling and judicious treatment, out of the most ordinary and commonplace materials has come a landscape that is delightfully beautiful or a marine or genre study that almost unconsciously transports us into the realms of art. These remarks are especially applicable to the portfolio of prints which, by courtesy of the Secretary of the Providence, R. I., Camera Club, have been submitted to us this month for reproduction and criticism. The honored traditions of this highly esteemed camera club, which is one of the oldest in New England, are being well upheld by this group of younger workers, who are earnestly striving to infuse an artistic spirit into their pictures. There is much of the quaint beauty and charm of little Rhody in the landscapes and marine studies of Messrs. Morse and Morrill — and something of the great mystery of the woods and rivers and the weirdness and grandeur of the sea. It is evident that they have learned from Nature some of her secrets and that they have tried to reproduce in these pictures something of what they have seen and felt. It is often said that to try for clouds and landscapes on the same plate is undesirable, as it is only in rare instances that both compose well; and, even if they do, the landscape portion must be sacrificed somewhat in retaining the clouds in development. If this be so, it is the only criticism we would offer to improve these points.

Even the most prosaic, matter-of-fact person however must experience a thrill of delight in beholding the beautiful "Mother and Child" picture by Mary G. Huntsman. The mystery of motherhood has been a favorite subject with artists and sculptors for hundreds of years. The early and later Italian masters of the Old World have been immortalized in history through their pictures of the Madonnas. It has remained for Miss Huntsman to give us through photography a conception of the Madonna of the New World that is remarkably beautiful, to say the least. The sweet modesty of the mother lost in contemplation and the charming innocence of the child find a beautiful setting in the mystical radiance that seems to envelop them both. All the dignity and charm, all the sweetness and light of motherhood are here embodied in this picture. The draping of the figures is good and the lighting is



MARY G. HUNTSMAN
A MODERN MADONNA

excellent, but the most impressive feature about it is, that it is a picture and not a photograph. It is not so much a faithful reproduction of the model, as it is an attempt to realize an ideal; and this motif when rightly expressed always lifts photography to the level of a fine art. The full length portrait of a little boy, by Geo. H. Paine, is another of those cases where the artist is indebted to the happy choice of a model for the success of his picture. The easy, graceful pose of the boy, the curly hair, the mass of dark in the head and hands contrasted with the light of the figure, the delicate lighting and shading of the face, make up a delightful picture as a whole. While the half tone reproduces some of the beauty of the original, one can imagine what an exquisite mezzo-tint or photogravure plate this would make in the hands of a first-class engraver. It is in figure studies especially that one can exercise selection and show more originality and invention perhaps than in any other form of photography. All the resources of his art can be employed by the photographer to produce effects in portraiture, provided always he is guided by taste and refinement of feeling throughout every stage of the process. The charming firelight study entitled "Bed-time," by Helen W. Cooke, is one of the most interesting pictures in the group. It was apparently obtained by placing the young models some four or five feet from the open fire-place and by working very nearly against the light. It is evident that exposure was made for the shadows, in this case, as they are really much deeper by contrast to the brilliant high lights than a momentary reflection would give. There is also a softness of light and shadow in the picture that is very pleasing, indicating that the exposure was not overdone in the shadows. On the whole, there is grace and beauty and breadth in the treatment that is very satisfying. The original print of Sourdnahunk Falls, Me., by H. J. Reynolds is like a beautiful steel plate. The texture is good and the quality excellent; while the brilliant shifting lights and the dark masses of purple shadow on the waters are specially well rendered. One can feel the perfect solitude of the place and almost hear the breaking of the silvery waves as they splash over the rocks. Last but not least, we are glad to recognize a faithful worker in J. Eliot Davison, whose charming picture "A Bit of Sunlight" shows that he has lost none of his old-time pictorial sense. The subtle harmonies of Nature still appeal to him. The pine wood, with its path and stately aisle, the sunlight sifting through the tree and scattering itself over the thick carpet of pine needles that seem to fill the air with a sweet resinous odor, brings forcibly to mind the poet Bryant's "Forest Hymn,"

> "The groves were God's first temples."

It is gratifying to note the sane and healthy trend of photography in this group of workers. There is no attempt to imitate the mannerisms of the painter's craft by fuzziness and blurred outlines, which is sometimes done by less judicious workers to imitate the impressionist school of painting. No doubt these workers realize that to produce an impressionist picture successfully requires the greatest efforts of the most highly trained artist. The dominant

ALBERT E. MORSE ALONG THE MYSTIC RIVER

note in all this work, however, is a love of nature and art. Their art is an expression through their pictures, of a feeling or sympathy for what is grand and beautiful in nature and this sensitiveness is after all, the chief aid to the production of fine creative pictorial work in photography. It is already possessed in some measure by cultivated people generally, because it is largely intuitive. Yet, this taste can undoubtedly be greatly improved in many of us by the constant study of the Old Masters and of nature. By comparing our photographs with the originals or reproductions of such fine paintings as they most closely resemble, we will soon discover their defects and weak points. Another way to strengthen this feeling or appreciation for beauty is the study of good poetry. There is a close kinship between the poetic and pictorial arts. The poet, the painter, and the artist photographer express the same thought in different ways and through different mediums, but the sentiment is the same in the final analysis, namely: an appreciation of the beautiful and the true. Photography is making great strides in the direction of pictorial and decorative art and that the Providence, R. I., Camera Club is contributing its share to the great work, no one will question who views these pictures with unprejudiced eyes.

A PRACTICAL CHEMICAL NOTION

AUSTIN K. HANKS

THE stripping or transferring of the film of a negative from a broken sheet of glass is, perhaps, a process that is not often done or often needed to be done; but when it is needed, it is so very necessary that the operation be successful, that the writer believes a practical and trustworthy description of the process would doubtless be appreciated by the readers of the PHOTO-ERA.

A few weeks ago it was my good fortune to be visiting a friend who has a large estate in Northern Pennsylvania. While there I secured a series of twenty-one 5 x 7 negatives, a part of this series being a panorama made with five 5 x 7's, a most beautiful view, and from the top of a mountain. It was equally my misfortune that one of the negatives of the panorama should get cracked in transportation. The crack was across the center from end to end, and rendered the plate practically non-printable. I wished to use the series for publication purposes and, as it was impossible to duplicate the work, the Pennsylvania town being over two hundred miles from my home, I was truly what you would call "in a hole."

The transferring of a negative was a new experience to me, but I determined to experiment to the limit of my ability, as I wished that particular negative on a whole sheet of glass, if it was a possible thing to get it there. I fished up two formulas that appealed most to my fancy, after going through a moderately complete library of photographic books. I found that hydrofluoric acid and methylated spirits were the necessary chemicals. These I procured, and the experiment, a very interesting one I assure you, was begun, but upon some old negatives that were worthless. After three fairly successful attempts, I decided to try the particular negative in question, and now give in detail the routine of the process.

Two 8 x 10 hard rubber trays are used. In one is placed about a pint of the best grade of wood alcohol; in the other the following solution: —

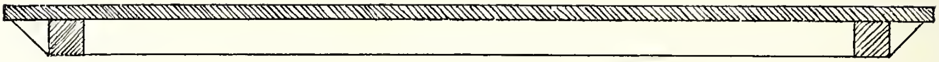
Wood alcohol (methylated spirits)	3 ounces.
Distilled water	6 "
Hydrofluoric acid	65 drops.

This formed the stripping solution.

It is also necessary to have three pieces of 5 x 7 glass (the size of the negative to be stripped). Two of these (I will call A and B) are moderately well cleaned. The third is very well cleaned (this I will call C), and is the piece used to permanently transfer the film to.

It is also necessary to have a piece of white silk thread, stretched on a small stick of wood as shown in the illustration, to pass gently between the film and the glass.

J. ELIOT DAVISON
A BIT OF SUNSHINE ON THE TRAIL



A piece of fine quality of bond writing paper, $5\frac{1}{2}$ x $7\frac{1}{2}''$ (for a 5 x 7 plate), is placed in the tray of pure alcohol.

The negative to be transferred has a line cut in it with a sharp knife, about $\frac{1}{8}$ inch from each edge; and, placing sheet of glass A under it, both are placed in the stripping solution, and gently rocked. In three or four minutes' time the little $\frac{1}{8}$-inch strips may be removed, after which the silk thread is carefully passed between the film and glass, to be sure that they are entirely separated. The loose film is now adjusted in the center of the glass under it, the sheet of writing paper removed from the tray of alcohol and gently rubbed in contact on top of film. Glass B is then placed on top of this, and the whole removed from the tray containing the transferring solution, and placed, turning same upside down, on a clean cloth on your lap. Glass A, which was placed as a support for the broken negative, is now removed; then the pieces of glass of the broken negative are removed, leaving the film clear. Sheet of glass C is now placed on the film; the whole is then turned over, bringing same right side up. Sheet B is now removed; then the film with paper or upper surface is gently rubbed in contact with glass C, using a piece of absorbent cotton dipped in the plain alcohol; after this, the sheet of writing paper itself is removed, and the operation completed, the transferred negative being set aside in a level position in a place free from dust, to dry. It may be well to note, as a closing remark, that the film of the broken negative must be whole. This is absolutely necessary.

GLYCERINE METHODS IN PLATINUM PRINTING

E. T. HOLDING

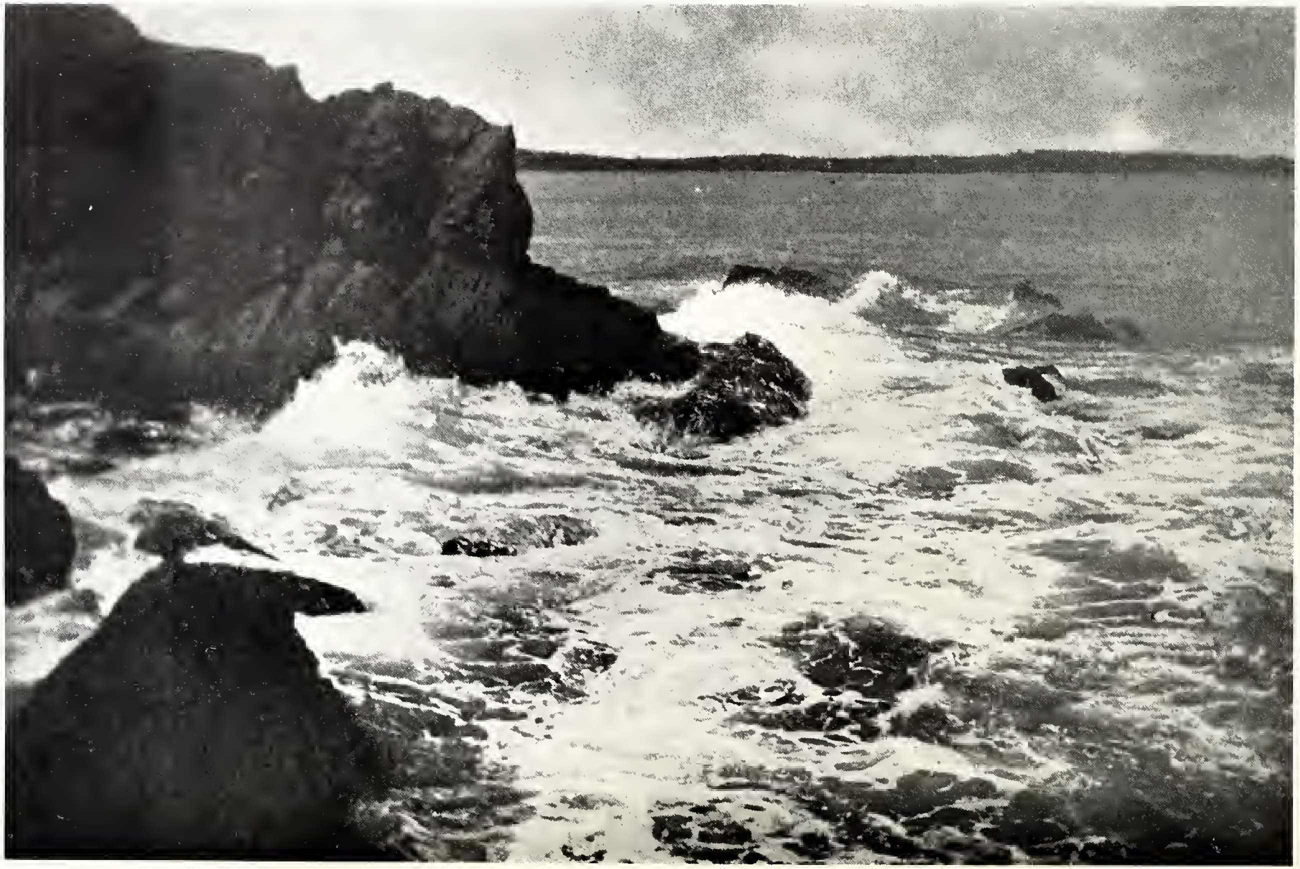
THE most fascinating branch of platinotype printing is undoubtedly that in which, with the use of glycerine, the worker is enabled to introduce such changes and modifications into his print that it shall represent what he intended, rather than merely what the lens recorded.

It has been found that a developer to which glycerine has been added acts much more slowly upon the paper than in its normal state. In other words, the glycerine protects the image from the developer. The greater the proportion of glycerine, the slower the development. If, therefore, we have a print, one portion of which we wish to develop more completely than another, the part to be retarded should be developed with a glycerine-diluted developer, the normal developer being used on the other part. In the application of this principle lies boundless scope for artistic, or at any rate individualistic, interpretation of the subject depicted, and it may be utilized in the following ways: —

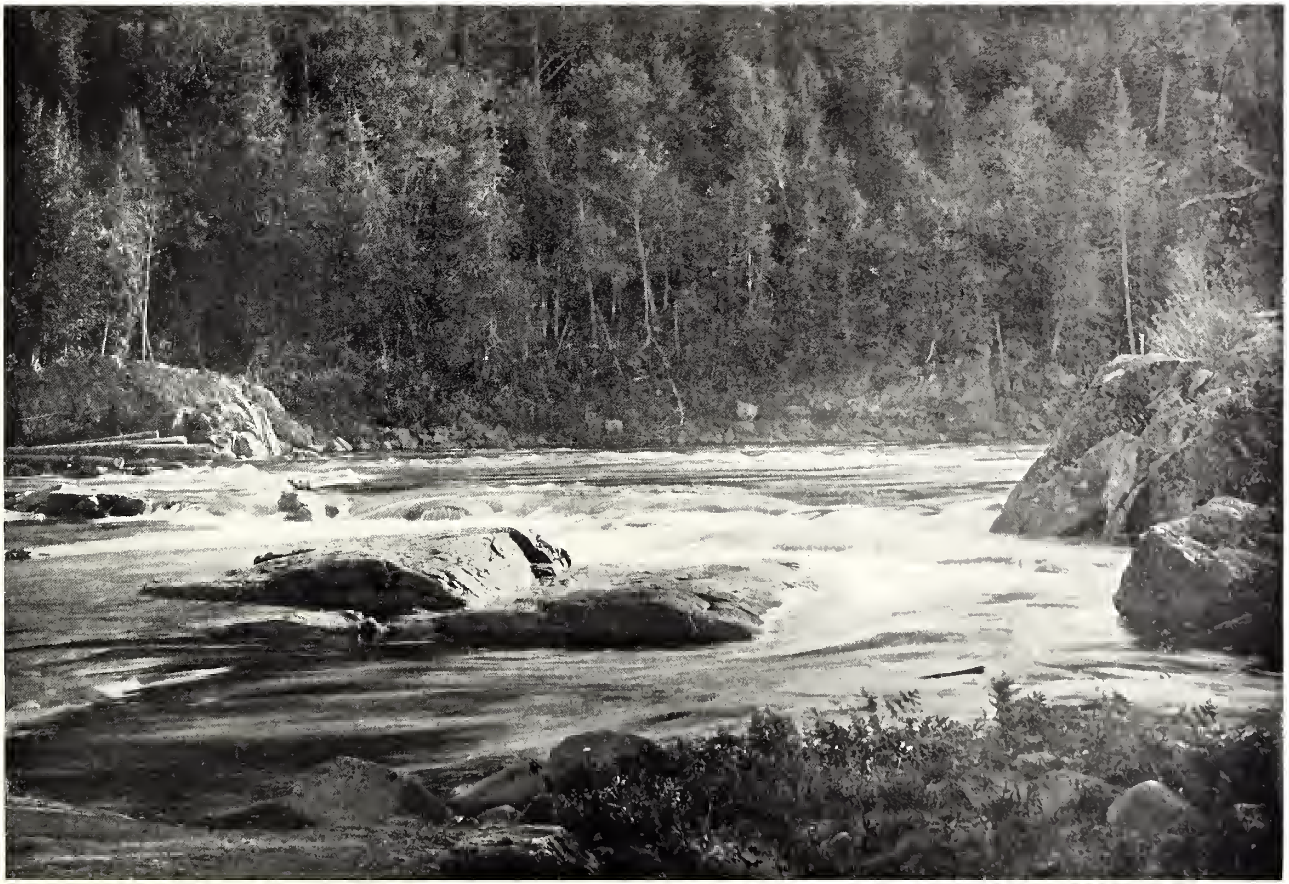
ALBERT E. MORSE AND GEORGE H. PAINE NEEDLEHOLE LANDSCAPE

(*a*) For the slow development of over-timed prints, in preference to using a weak developer.
(*b*) For retarding those portions of the picture that would otherwise develop too strongly.
(*c*) For retarding portions of the picture with a view to emphasizing other parts.
(*d*) For the purpose of vignetting.
(*e*) For the purpose of completely obliterating portions of the print.

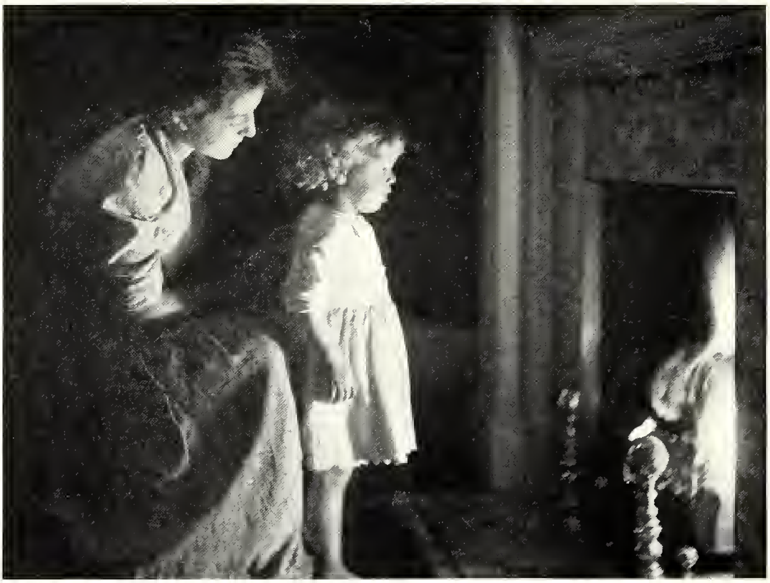
In the hands of a master, then, an undeveloped platinotype print may become almost as complete an expression of his ideas as though he had himself wholly created it. Emphasizing here, retarding there, and in places entirely obliterating, he works with almost as free a hand as does a creative artist. So much, indeed, depends upon the worker's individuality, his appreciation of the possibilities of the subject printed and upon his manipulative capacity, that more failures than successes may be expected with this branch of the work. No instruction can be given in it, and all that can be done is to suggest the simplest methods of procedure, leaving each individual worker to face alone the artistic problems involved, and work out his own conception or interpretation of the particular subject he may have in hand.



GEORGE H. PAINE THE BREAKERS, NEWPORT



H. J. REYNOLDS SOURDNAHUNK FALLS, MAINE



HELEN W. COOKE BEDTIME

Regarding point (*a*): Add 1 oz. of glycerine to 4 oz. developer. This will be sufficient to retard the development of an over-timed print. Pass the developer over the face of the print with a tuft of cotton wool, or with a broad flat brush, taking care that it is evenly laid on and that it gets into the pores of the paper. For this purpose it is a good plan to lay the print face up on a piece of glass, or on a board covered with American oil-cloth. A few drops of glycerine under the print will keep it flat, and prevent it sliding about as the developer is applied. As soon as the desired tone is reached, place the print in the clearing bath, wiping it carefully over while in the bath with a tuft of cotton wool; otherwise the development may continue under the glycerine until the acid bath has dissolved the glycerine and got to the print.

Points (*b*) and (*c*): Coat the portions to be retarded with the above glycerined developer, and immerse in the normal developing bath. If the retarded parts do not come up quickly enough, brush them over while in the bath. This will remove some of the glycerine, and allow the normal developer to get to work. If the retarded parts are not sufficiently retarded, remove the print from the bath, blot it carefully with the blotting paper specially prepared for photographic use, coat the parts with pure glycerine, and place again in the bath.

Point (*d*): For vignetting, run a few drops of pure glycerine on the face of the print, spreading it with a clean flat brush evenly over the entire face of the print. After waiting a few minutes to let this soak well in, blot off any superfluous glycerine. Now brush the glycerine developer over the portions

C. W. MORRILL THE BREAKING WAVE

to be developed. Should the development proceed too slowly, use a stronger developer with less glycerine in it. Proceed until the full tone desired is obtained before placing in the clearing bath. Use cotton wool as above to remove the glycerine. The portions of the print protected by pure glycerine, and not reached by developer, will disappear in the clearing bath, leaving pure white paper.

Point (*e*): A much wider subject than vignetting. Much depends on the character of result desired. Those portions to be retained in the print may be developed either with the brush charged with the normal developer or with the glycerine-diluted developer. It may or may not be necessary to coat the paper first with glycerine. After the foregoing notes this must be left to the worker's discretion, everything depending upon the character of the result aimed at.

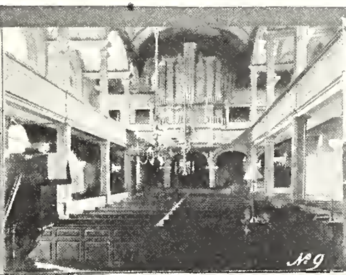
Development should be carried on in plenty of light of a safe kind. This may be gas or lamp light. If daylight be used, the entire window should be covered by an orange paper screen in a light wooden frame fitting the window frame, and held by turn-buttons at each side. The more glycerine in the mixture, the slower the developer acts. Therefore, some judgment as to rate of action must be exercised. One should bear in mind the simile of a race in which the slower runners are started at such intervals that all may arrive at the goal post together. After development the print is cleared in the usual way, but as the pores of the paper are saturated with glycerine, a little extra time must be allowed for the clearing baths to do their work.—*The Practical Photographer*, No. 6.

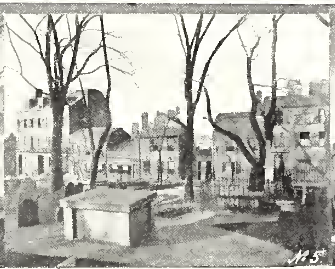
GEORGE H. PAINE
NATURE'S CHILD

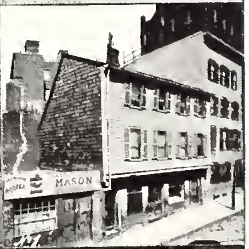
HISTORIC BOSTON AS SEEN BY PAUL REVERE

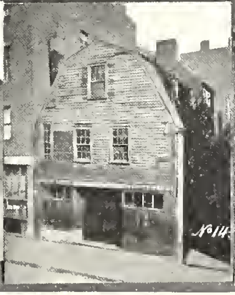
WILFRED A. FRENCH, PH. D.

AS years pass on, the patriotic American appreciates with increasing force the results of the valor and noble self-sacrifice of the men of the Revolution, and it is for this reason that we welcome Patriots' Day, in order that we may give a specially earnest thought to the deeds of those brave men. Among the group of the heroes of the American Revolution none stands out more conspicuously than he, who is known to history as the Messenger of the Revolution — Paul Revere. He who visits the historic North End on Patriots' Day, April the Nineteenth, cannot contemplate without a feeling of pride the few remaining landmarks of the period of the Revolution. Stripped of their modern environments, these products of the camera may assist the imagination to conjure up scenes of by-gone days that appeal to our sense of patriotism. Trusting, therefore, to the indulgence of our readers, we will picture Paul Revere on a walk from his home in North Square to his atelier in Watertown. The time selected for this diversion of our usually industrious friend is April 19, a year after the battle of Concord, which anniversary was doubtless observed even before the independence of the Colonies had been actually won. It was not an easy task in those trying days for true patriots to accumulate riches, and, while Dame Fortune smiled upon many of her sons, especially after the British had evacuated Boston, Paul Revere had an up-hill struggle to maintain successfully himself and his growing family; but by 1770 he had prospered sufficiently to enable him to purchase a home, which was located in North Square (No. 1). The structure was nearly a century old when Revere moved into it. It is still standing in a fair condition of preservation, one of the now very rare types of seventeenth century domestic architecture, in which the second story projects over the wall-line of the first. Leaving his home, Revere directed his footsteps towards Clark Square, facing which had stood, until pulled down by the British soldiers for fuel in the winter of 1775–'76, the old North Church, also known as Second Church. From the site of the Old North, which he had watched being demolished, Revere continued along North Street (later the northern extremity of Hanover Street) hardly noticing the humble, wooden structure at his right (No. 2) which, according to tradition, had been built by one of the Winthrops and had seen the great Boston fire, just one hundred years before — until he came to a large three-story brick structure (No. 3) occupied by Mistress Tremere, with whom he exchanged greetings. Retracing his steps, he turned abruptly to the right, into Charter Street. On the opposite side of the street his eye rested for a few moments on a dwelling which, about two years later and near the close of the War of Independence, he secured by purchase. In this house he afterwards lived and died, the latter event occurring in 1818. A little distance farther he came to Foster's Lane (later Foster Street), on the south-eastern corner of which stood, until demolished in 1886, a plain three-story brick dwelling (No. 4) celebrated from the fact, that within its solid walls the Charter of the Massachusetts Bay Colony was hidden during the troublous time of 1664. He now turned into Foster's Lane, in the lower end and east side of which he established, sixteen years later, a cannon and bell foundry, the business of the same being carried on under the name of Paul Revere and Son. Returning to Charter Street he soon arrived at the base of Copp's Hill Burying-Ground (No. 5) which, at that period of its career, bore an aspect far different from what it did before the British soldiery had degraded its consecrated grounds. Strolling among the tombs of Boston's illustrious dead, Revere could hardly restrain his indignation, as he observed the numerous acts of vandalism, committed by King George's soldiers. Many of the upright gravestones had been splintered by target practice. Moving towards the Hill Street (Hull Street) side of the cemetery, Revere reached the summit of the hill, where he noticed the remains of the work, erected by the British, from which they bombarded the patriots on Bunker Hill, June 17, 1775 —the first battle of the Revolution—and set fire to Charlestown. He remembered, too, how here stood Generals Burgoyne and Clinton, witnessing the struggle on Bunker Hill and directing the fire of the battery. Clinton, seeing the ranks of the British decimated by the accurate fire from the American redoubt, hurried to the water's edge, jumped into a boat and crossed over to the aid of General Howe, who was nearly crazed by the loss of his veterans. An explosion, followed by merry shouts from juvenile throats, roused our patriot from his revery and through the gate he passed into Hill Street. Directly opposite was the modest home of Edmund Hartt (No. 6), owner of the shipyard bearing his name and which will be forever famous in our annals as the place where the Pride of the American Navy, the frigate "Constitution" or "Old Ironsides," was built. Continuing down the hill and on the same side of the street, he passed the Galloupe House (No. 7) which, on the famous Seventeenth of June, had served as headquarters for General Gage. Revere now stood in front of Christ Church (No. 8). Glancing upward he beheld the spire, from which, just one year before, signal-lights had flashed a message to him, as he stood waiting on the Charlestown shore, ready to dash on horseback to Lexington. Being a devout man, Revere entered the sacred edifice (No. 9) where he remained a short time. Emerging, he crossed to the corner of Salem and Sheafe Streets (Nos. 10 and 25), the residence of his friend Robert Newman, the sexton of Christ Church. That worthy patriot was within and the two chatted together in the manner of intimate friends. Perhaps the fact that both were freemasons accounted for the confidence they reposed in each other. It would be impossible to imagine that no reference was made to the exploit of the brave sexton in eluding the vigilance of the British officers quartered in his house, stealing out of a rear-window and successfully suspending the signal-lanterns in the steeple of Christ Church on the night of April 18, the year before. By-and-by the two sallied forth and with true patriotic instinct sauntered by the way of Sheafe and Snow Hill Streets into Prince Street. Here they paused a few moments before a solid two and a half wooden structure (No. 11) which, on the evening after the encounter at Concord, was filled with wounded British grenadiers.









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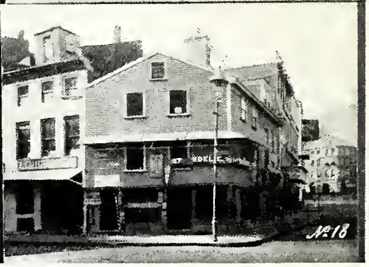

No. 18

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Continuing easterly, Revere halted before the brick-house (No. 12) belonging to Mr. Stoddard, the boat builder. Here Major Pitcairn, a gallant British officer, mortally wounded at Bunker Hill, breathed his last. They next passed, at the corner of Thatcher Street, the little three-story home of Colonel Badger (No. 13). Crossing now to the easterly side of Back Street (afterwards Salem Street) our friends probably failed to notice on the north side of Prince Street a picturesque gambrel-roofed house (No. 14) occupied by John Thoreau, and where, fifty years later, were passed the boyhood days of that citizen's grandson, the celebrated author and philosopher, Henry David Thoreau. A building, considerably in evidence, however, on account of its unusual proportions, was the Winthrop Estate (No. 15) known towards the end of the nineteenth century as the Wells House, situated opposite Cooper Street. From here to Union Street was a straight line, and in a few minutes our strollers stood in front of a plain, brick structure (No. 16), occupied by Hopestill Capen, to whom was apprenticed, as a clerk, six years before, young Benjamin Thompson of Woburn, afterwards famous as Count Rumford. The *Massachusetts Spy*, a noted newspaper of the time, had been published here from 1771–75; but, owing to its decidedly patriotic proclivities, it had removed to Worcester and from that time was known as the *Worcester Spy*. A few minutes farther on was old Faneuil Hall (No. 17) popularly known to succeeding generations as the "Cradle of Liberty." Leaving this historic edifice, as well as the adjoining "Old Corner" (No. 18) at their left, and proceeding across Dock Square, the two friends entered Cornhill, later known as Washington Street. Continuing along Cornhill, they passed the Town Hall (No. 19), after the Revolution called the State House — and, farther on, the Old South (No. 20), so called in contradistinction to the Old North. What a wealth of memories was stored within the hallowed but desecrated walls, and what an eloquent story the sacred edifice was able to tell after even the relatively short period of its existence! Proceeding now along Marlborough Street — which ran from Water to Summer Streets and later became a portion of Washington Street — through Summer and Kingston Streets and then into Short Street (the latter Columbia Street), Revere and Newman arrived at the handsome, gambrel-roofed residence of Mrs. Sheaffe (No. 21) widow of William Sheaffe, collector of the Royal Custom House. Turning into Essex Street, and just before they reached Newbury Street — in after years a portion of Washington Street — the two friends passed the site of the Old Liberty Tree, beneath which the Sons of Liberty were wont to hold their meetings. Continuing into Boylston Street, they came to the Common, looking across which, in a northerly direction, they noticed a large, stately mansion on the slope of Sentry Hill (Beacon Hill) — the residence of John Hancock (No. 22). Turning now up Nassau Street (later Tremont Street), they soon came to the corner of Hollis Street (No. 23), the residence of Mr. Nathaniel Bradlee — known to succeeding generations as the Bradlee-Doggett House — who, with his two brothers, Josiah and David, like Paul Revere, had been actively connected with the Boston Tea Party. Mr. Bradlee had observed the approach of his two compatriots and stood on the threshold of his home ready to welcome them. After a pleasant hour spent with the Bradlee family, during which time current events of the war were discussed, Revere and his friend departed and soon were on their way to Watertown, where the former's engraving plant (No. 24) was located. Here Revere was busy, at that time, engraving and printing the paper currency, authorized by the Provincial Congress, besides producing medals, seals, etc., a vocation aptly illustrating his many-sided ability. Newman evinced a deep and sympathetic interest in all that he saw, and so we will take leave of Paul Revere, hoping to be favored again with an opportunity to accompany him on a walk, as interesting as has been the one to-day.

THE FAMOUS BURNSIDE BRIDGE AND THE POPE MONUMENT AT ANTIETAM

THEATERS OF WAR

C. H. CLAUDY

A FEW years ago I had the pleasure of a trip to Boston. It was not my first, but I enjoyed seeing the few million historical spots and buildings all the more that they greeted me as old acquaintances. I was obviously a stranger, however, and so I was never surprised when unusually minute directions were forthcoming to my questions as to the way to this or that historical spot. I happened to meet, at my hotel, one of the kindly Bostonians who had directed me early in the day, and we fell into conversation. After recounting briefly what I had seen, he asked me what had impressed me most. I could see he was expecting I would say "Harvard," or "Your beautiful Library," or "The Subway," or "Old South Church," etc., but I told him the truth and gave him the shock of his life. "The most impressive sight Boston holds for me," I said, "is the set of glass cases in the rotunda of the State House, in which are one hundred and sixty battle flags, borne through the Civil War by Massachusetts men." When I saw those blood-stained, ragged, torn and dirty emblems, I took off my hat — if I had not, a guide would undoubtedly have called my attention to the omission.

You are wondering what this has to do with cameras or motor cars? It is simply that you may understand and forgive the enthusiasm of my point of view. I am going to tell you about a tour to be made through a country made famous by the war, and unless you can think of me as a dyed-in-the-wool war enthusiast, you will probably find it tedious reading. Which side? Sir, there is no side. North and South are one, now. Had I lived in war time, I presume I should have fought for the Union — I hope so; but the men who fought for the Lost Cause seem to me to deserve no less honor and glory that they lost, or that they were on the side opposed to Northern ideas of right, than those of our own side, who fought and bled and gave their lives for their country. No man can do more than fight for what he thinks is right.

From wherever you start, you will make your way either to Washington, D. C., or Baltimore, Md., to take the tour through Frederick, Md., Hagarstown, Md., Sharpsburg, Antietam, Md., and Halltown, Boliver and Harpers Ferry, West Va., and then either back the way you came or through Leesburg, Va., home again.

From Washington you have a beautiful pike for twenty miles — out Seventh St. road, through Forest Glen and on to Olney. Then, to Ridgeville, there are twenty miles of very ordinary road; in good weather not so bad, in rainy weather awful beyond description — muddy, rutty and full of holes, it presents the maximum of difficulties to a car. But right here I want to say that if you always motor over smooth roads and refuse to go where rough roads are; if you expect to have your motoring career one long stretch of asphalt and smooth macadam, you are missing more than you know. Who would play all the time? Who wants all his dinner to be a dessert? If you had to live in a theater, do you think going to the play would be an amusement? It's just the same with a motor car; if you never strike the rough places, you can't enjoy the smooth ones. If you never have to get out in the mud and work over a tire until you are filthy from head to heel, you will never know the joys — the real joys — of the bath at the end of the day's run. So I regard the twenty miles from Olney to Ridgeville as the spice of the trip — having been through it eight times, and all but once in mud, I know whereof I speak. From Ridgeville to Frederick, about fourteen miles, there is a good pike. Plenty of thank-you-marms, to be sure — one about every thirty feet, levels and all, so that speeding is out of the question, but otherwise a welcome change from the road just gone over. Then Frederick comes, a wide-awake town, with much pride in its war memories, confined mostly to the passage and repassage of troops through its limits. Here is a good place to stop and eat and get gasoline for the run over the mountains.

The country heretofore has consisted of gently rolling farm lands and pastures, with here and there a small town to relieve the monotony. From now on, however, the scenery grows much more rugged and grand. As you roll out of Frederick to the north, you see in the distance the mountains, the first hint of the real war country. The approach to these mountains is over a splendid pike, with toll gates rather frequent, and charges anywhere from five to thirty cents, mostly the latter. Up to Frederick it is easiest to get round trips; beyond Frederick, take single trip tickets, as the return is by another route.

The climb up the first range is long and hard. It takes a good machine to make so sustained an effort, and only good machines should attempt it. If you have a high power car, however, there is nothing to dread, and a low power car will make it on the low speed, if the engine is willing and in good condition. When I made the trip, I traveled in a fifty horse-power Pope-Toledo, than which there is no better car made in this country, nor, so far as my experience goes, abroad either. I have traveled thousands of miles in this car, and have yet to have any more disconcerting break down than a punctured tire, which happens alike to the good and the bad. But there are some rises in these mountains that would make a locomotive lie down and die, and even the best automobile must pant and struggle, and perhaps slip in a lower gear for some especially hard rise. Then, all of a sudden, the very top is reached — Braddock Heights — and here is a wonderfully beautiful view. You can look at the photograph, if the Editor gives it space, and see a faint reflection of what we saw in the evening —

BRADDOCK HEIGHTS AT EVENING

miles and miles and miles again of country, rolling, farmed, prosperous, with another mountain range in the distance, and a faint and softening mist lying over all.

But it is late, and we do not linger, and neither must you, but speed on over the second mountain range, where you will find some sure enough hills to climb, and then down the valley to Hagarstown, where you will spend the night. And a good night's rest you will have, after your eighty odd miles of running. Get a room and a bath and enjoy them both for all the sleep you want. We went to bed at eight o'clock and slept until seven in the morning. Then, after a hasty breakfast we took a short trip to and through the Pope-Tribune automobile factory, and a very interesting thing it is to see. Then, about ten o'clock, we slid out again to the north, bound for Antietam and Sharpsburg, Harpers Ferry and the battle grounds.

The battle of Antietam was fought on Sept. 16, and 17, 1862. General Lee, after his victories in the seven days' fighting on the Chickahominy, determined on an invasion of Maryland, with the hope of Washington in the distance,

THIRTEENTH NEW JERSEY MONUMENT, ANTIETAM

the possibility of turning divided Maryland into an openly rebellious state, and with what must have appeared to him as a fine prospect for a decisive defeat of the Union forces.

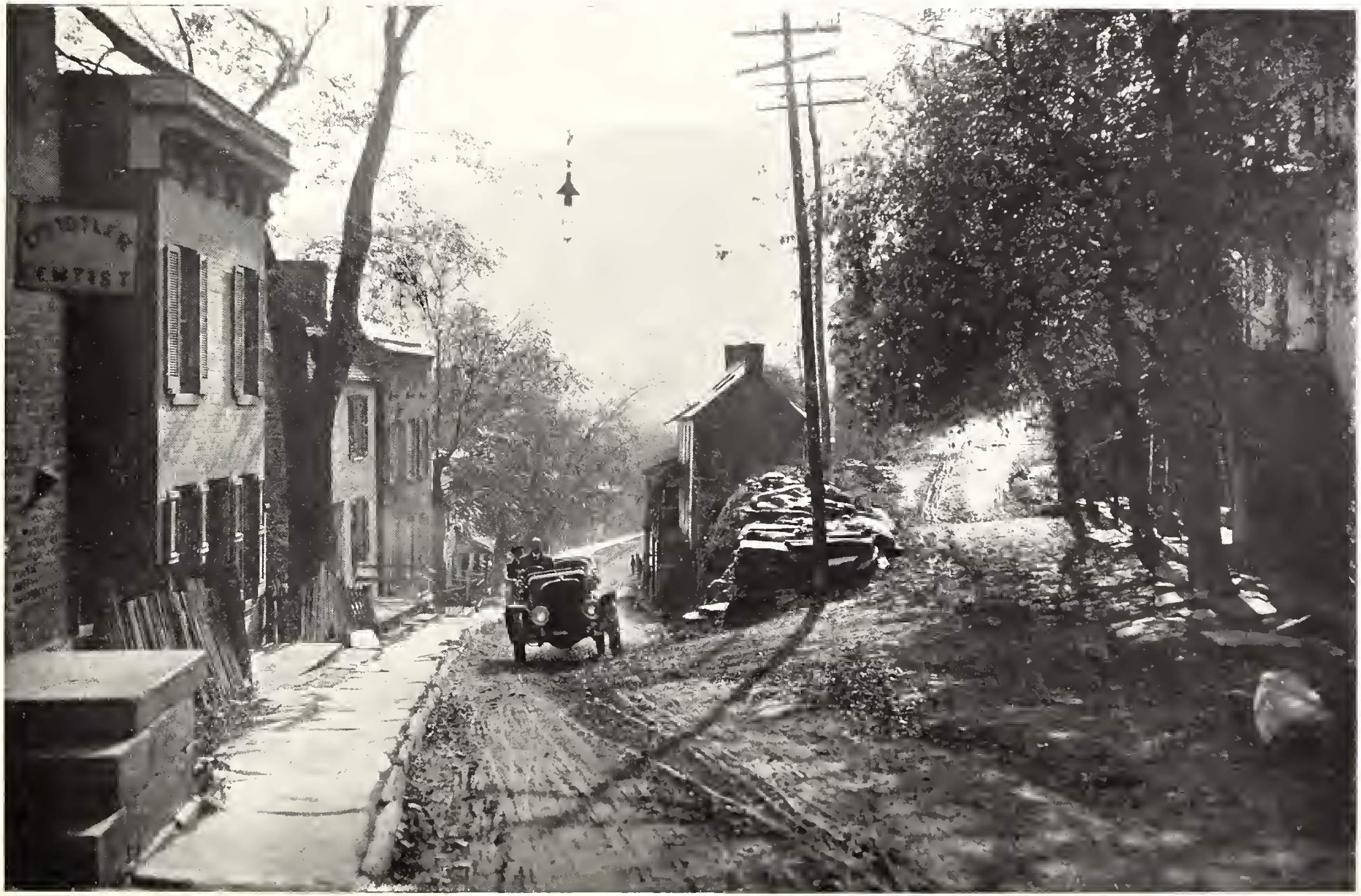
The Army of the Potomac, under General McClellan, entered Frederick on the way to meet Lee, as Lee's rear guard was leaving it. This was on September 12. Here, through a lost order of a Confederate officer, McClellan found out much of Lee's plans. Lee chose an all but impregnable position between Sharpsburg and Antietam Creek, a tributary of the Potomac, and was in command of all approaches to the town when McClellan and the army arrived, going into position on the left bank of the creek on September 15. The next day was mostly a day of preparation. Certain critics have said that had it been spent in fighting, the battle would have been a terrible loss for Lee, inasmuch as but part of his forces had arrived. Be that as it may, the engagements of the afternoon of the 16th, and particularly the 17th, were of the most bloody and desperate character. McClellan was handicapped in using his superior numbers by an inability to concentrate them; Lee, on the other hand, with his rear guarded by the Potomac and his front by the Antietam, could mobilize any or all of his force to any part needed; and the results, terrible to both armies, showed what the advantage of position could do for a smaller force against a large one.

But I am not writing a history. Those who are interested can find complete accounts in any war history, possibly that by McClellan himself being one of the most interesting. Read it, or some similar book, before you make the trip, in order that you may enjoy your visit to the full, with understanding. In Sharpsburg you can get a guide, and his fee of a couple of dollars is well spent. You will want to see the various points of interest, and learn what they are, particularly the Dunkard Church and the Burnside Bridge. This last, of which I can show you a picture, was one of the centers of battle; the Unions, under Burnside, trying repeatedly to cross the bridge under a withering fire, the Confederates, on the heights beyond, defending it with gallant fighting. To the automobilist this bridge has a peculiar interest. On the left side, as you approach, is a monument, simple and plain, on which is the inscription

Erected By
Lieut. Col. Albert A. Pope
As a Memorial of His
Dead Comrades.

On the other side of the monument is a short account of the fight and of the two hundred and fourteen men killed on the bridge. Lieutenant-colonel Albert A. Pope is the founder and present head of the great Pope Manufacturing Company, which makes the Pope-Toledo, Pope-Waverly, Pope-Hartford and Pope-Tribune automobiles and Columbia bicycles. Colonel Pope is also the founder of the good roads movement in America. Why, this being so, the approach to the Burnside Bridge should be a particularly atrocious specimen of bad road, only the aphorism "Shoemakers' children are never shod" can explain, although I presume there is no legal or moral reason why Colonel Pope should help the Government improve its own park! I am glad I was able to get a picture of his monument, the bridge where he fought and the car he makes, all together. I wonder if his wildest dream, when he was fighting, ever considered such a picture as a possibility?

But I am delaying. From Sharpsburg to Shepardstown is a bad four miles; from Shepardstown to Harpers Ferry via Halltown is all the heart could desire. And Harpers Ferry — beautiful, imposing Harpers Ferry, with its little, old, sleepy, dead town, its beautiful scenery, its memories, its monument to old John Brown — what can I say of it except that not to have seen it is to have missed something worth while. Not even the Berkshires in the East can compete with it to those who learn to love its beauty.



WHERE JOHN BROWN MARCHED HARPERS FERRY, WEST VIRGINIA

But my space is giving out, and, I am afraid, your patience also. Go home by way of Jefferson, through Weverton and Knoxville, and strike Frederick again, if you want smooth running — if you don't mind bad roads, go through Virginia by way of Leesburg, but blame me not if you wish you hadn't. The roads are pretty poor, and the scenery is all that redeems the trip. Meanwhile, don't worry that you have seen not half enough — Harpers Ferry, Heaven be thanked, cannot run away, and its beautiful scenery must remain unspoiled by man, for lack of object to desecrate it. I have been there six times, and, the Fates permitting, I expect to go again.

THE NEW BATTLE OF JENA

THIRTY years ago the utilization of coal-tar was little known in Germany. Now our German competitors lead the world in products made from coal-tar imported from England. Our aniline dye trade has almost disappeared. Patient scientific work and laboratory research have given it to Germany. The four chief aniline dye companies in the Fatherland make £4,000,000 profit a year. The industry which chemical science has thus built up is maintained by science and research, and is now so firmly established that its position is almost impregnable. The melancholy story of how the indifference of our manufacturers lost us the trade is well known.

It is one object lesson, but there are others. No better example of how science helps industry could be cited than the case of Jena and its glass-making. Twenty years ago Germany imported lenses and glass for scientific purposes, chiefly from England and France. Jena was known to the world as the scene of a famous battle, and as the seat of a university. Since then there has been a new battle of Jena, the result of which is that the historic town has conquered the world — for glass-making. The world, and more particularly the world of science, has benefited from the new victory, as optical microscopic work, and scientific investigations requiring the finest lenses could not be so well carried on without Jena. The recent eclipse of the sun was witnessed by the astronomers chiefly through lenses made at Jena.

How the new battle of Jena was won is one of the most fascinating chapters in modern science. The campaign began with a peaceful and industrious professor. He was a typical German scientist. He had no thought of founding a new industry when he began, and had never any desire for gain. As professor of mathematics, astronomy and natural science at Jena University, Professor Abbe was interested for his purposes in the improvement of lenses. Lens making had not reached a scientific footing; it was more of a craft, depending on the experience and skill of individual craftsmen. The professor wanted better and surer lenses — which would be more exact in refraction and deflection

— and he set about finding out how they could be made. He began in 1881, taking as his partner Dr. Schott of Witten, who, besides being a brother scientist, had a practical knowledge of glass making.

The experiments and research work were carried on at the small glass works of Carl Zeiss of Jena. It involved extensive chemical analyses and laboratory experiments, trials with a hundred kinds of new raw materials, new methods of treatment, testing, etc. The vast amount of this work only gave negative results, but the scientists kept on bravely. They were not discouraged until after two years all their funds were exhausted, just when they were beginning to see results.

Then something happened which is inconceivable in England. The Prussian Government, recognizing the scientific and industrial value of the work which the scientists had in hand, subsidized them for two years. Help was not necessary after that time, as the first fruits of four years' industry were being reaped, and the Jena lenses were on the market. Lenses for all sorts of scientific purposes were being turned out on the new methods. The Carl Zeiss works were divided into two departments, one for making the glass and lenses used for optical purposes, for prisms, thermometers, microscopes, telescopes, etc., the other for making the finest qualities of glassware. In both factories the work of investigation was carried on. Now the lens factory employs more than twenty scientists, constantly undertaking new researches in the hope of discovering improvements. The glass works have also a staff of trained experts.

Professor Abbe had no thought of founding a new national industry or of reaping the profits of his discoveries. He became the chief owner of the Carl Zeiss works, and the business was very profitable; but he transferred his interest to the Carl Zeiss Stiftung, or institution — his own creation — which is now practically under public control. It owns a controlling interest in the lens works and a half-share in the glass factory. The Stiftung looks after the welfare of the workers, makes provision for profit-sharing, for pensions, sick allowances, etc. It devotes large sums to educational purposes and to scientific research. Professor Abbe and the other directors draw their salaries only, and it is a condition that a director's salary must be not more than ten times the pay of an ordinary workman. The State — Grand Duchy of Saxe-Weimar — inspects the Stiftung as if it were one of its own institutions for "workmen's welfare."

The employees work eight hours a day, and they have two weeks' holidays a year. They send delegates to the meetings of the Stiftung, and have a voice in the management of the works. The Jena glass works are practically a cooperate undertaking. Its position as an industrial enterprise has been rendered impregnable.

Professor Abbe, it will be seen, combined science and philanthropy. He worked for progress alone. His discoveries have not been patented, and the scientific and mathematical results which he has obtained have been given to the world. His improvements in lenses have benefited mankind by adding to our knowledge in bacteriology and other departments of practical science.

An imperial institution which helped Professor Abbe to test his valuable lenses was the Reichsanstalt. It is situated in Charlottenburg, not far from the celebrated technical college. It was one of the institutions visited by the British municipal committee on the occasion of their recent tour, and it is doubtful whether any of the members appreciated its importance. It is an institution in which there is little to be seen by the visitor, but where great work is done. The Reichsanstalt, or the Imperial Physical and Technical Institute, is a college without pupils. It is a college of professors — about a hundred of them — and its purpose is to investigate the most difficult scientific problems, and to establish exact mathematical tests for all kinds of material.

The technical departments show how the scientific results can be adapted in advanced mechanics. The institute investigates all problems connected with light, heat, cold, electricity, magnetism, etc., which it measures, weighs, etc. It establishes tests in purity in all sorts of metals — gold, silver, copper, iridium, platinum, etc. It tests steel, glass and all other materials, and fixes the correct standards for barometers and thermometers. It does everything which is done at Kew and Kensington, and a great deal more.

The Reichsanstalt was founded by Von Siemens and Von Helmholtz. The former presented the site. The first cost of the building was about £200,000, and was paid by the Imperial Government. While primarily a scientific institution, the Reichsanstalt also helps, directly or indirectly, all industries where high technical skill is required.—*London Chronicle.*

L. F. BREHMER A SUMMER LANDSCAPE

ADAWEMAUN

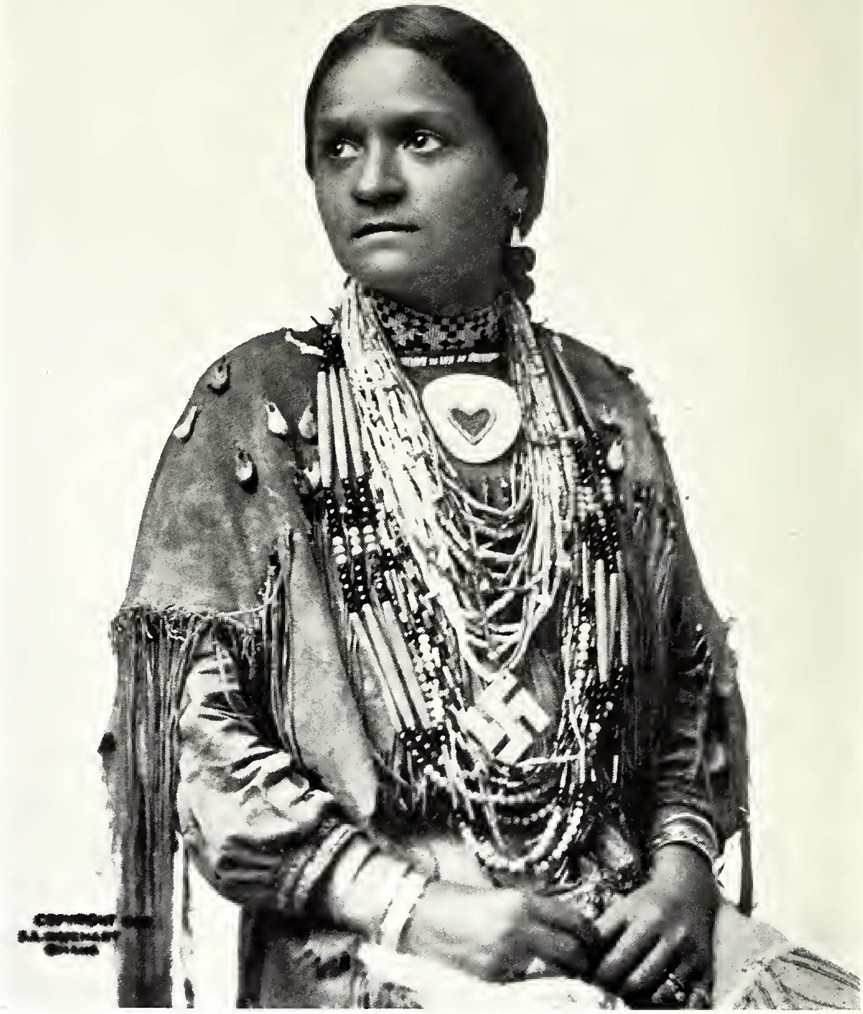
From the "Legend of the Red Rose Maiden"

AGNES LOCKHART HUGHES

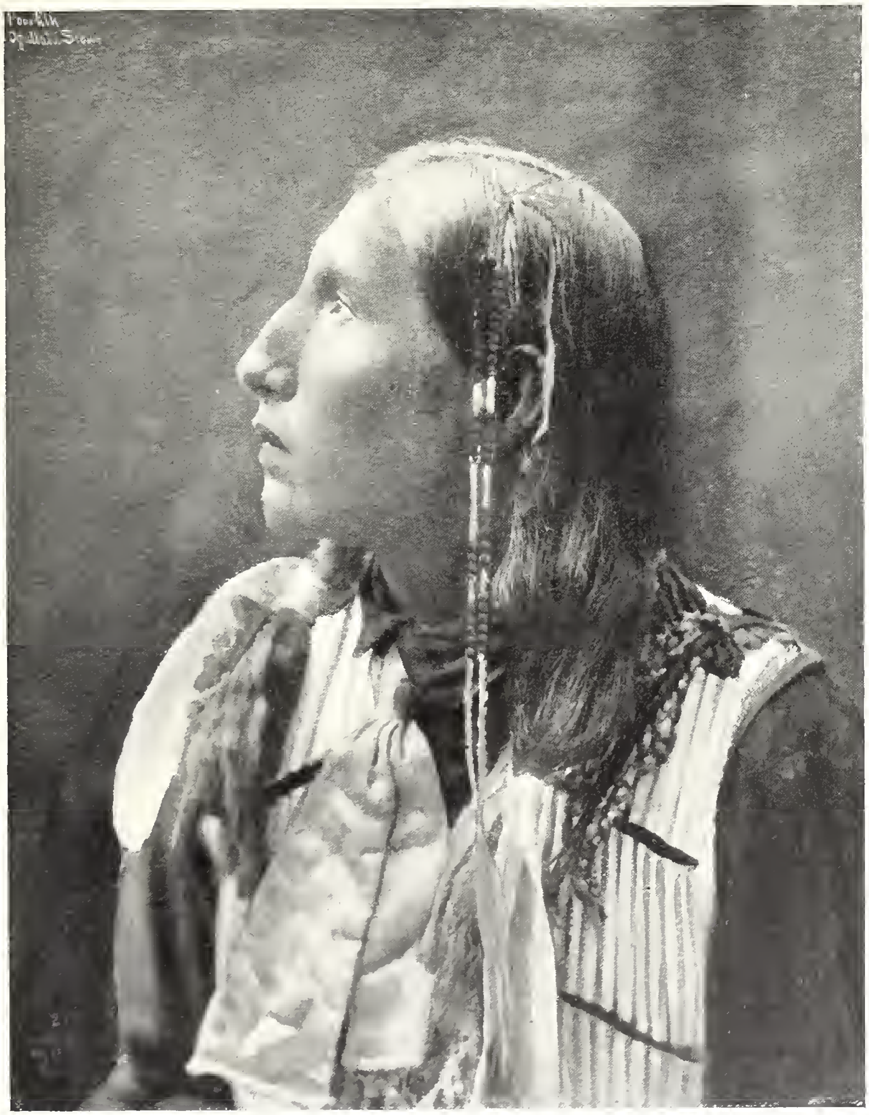
(Photographs by F. A. Rinehart)

Adawemaun, in her wigwam, sat beside the open door,
Weaving rushes, where the sunshine streaked with gold the mossy floor.
Fairest of Ojibway maidens, belle of all the camp was she;
And her heart was singing blithely, with the song-birds in the tree.
Then there came unto the wigwam one whose fame dwelt far and near:
Amich — of the brave Algonquins — he who dreamed no thought of fear.
Here, by Adawemaun's father, he was feasted day by day;
'Til three suns had set in splendor, and three moons had paled away.
Down the forest paths they wandered, plighting vows of fondest love;
And the stars came blinking softly through the purpling skies above.
"Adawemaun — come, ah, fairest! come, my queen, my love, my life,
To my tribe o'er yonder river; I will take thee as my wife."
"No, dear Amich, I would test thee. Come thou here one year from now;
Then, if thou dost love as truly, I will keep my plighted vow."

Silent faded night's fair crescent, and the stars died one by one;
As again before her wigwam Adawemaun wove and spun.
Many suitors sought the maiden, as her wampum beads she strung,
But the name of "Amich," only, through her being softly sung.
So the summer days sped swiftly, and the autumn, clad in red,
Spread her mantle o'er the petals that lay scattered, sere and dead.
Then Queen Winter, robed in ermine, through the forest crept in fear,
Dropping all her pearls behind her as the laughing spring drew near.
"He will come — my love — my Amich, with the roses born in June.
Ah! the brook is sweetly singing, with my heart, its merry tune."
Down the scented aisles she wandered, through the twilight mists of gray,
And her eyes, like jeweled starbreaks, lit the gloom of parting day.
"Adawemaun — fair Ojibway — I am waiting here for thee;
Come — and keep thy tryst, beloved, keep thy plighted troth with me."
"I am here, my love, my Amich, happy now forevermore.
Ah, no sun has lit my wigwam since you left its open door!"
"Truly, Adawemaun, starlight, I will flood thy life with love,
'Til it shall outrival, dearest, all the glittering lights above.
To my tribe, oh come, beloved, they will gladly welcome thee.
Thou, Ojibway; I, Algonquin, — they will honor thee and me!"
"Yes, dear Amich, I will wed thee, ere the new-born harvest moon
Dips her jeweled, star-kissed crescent in Desbarat's fair lagoon.
There, beside the falling waters, I will meet thee, sweetheart mine,
Where the brook sings, oh, so softly! and the fragrant roses twine."
So they walked, where shadowy branches clasped their hands high overhead,
And the stealthy Wagoose followed, hearkening what the lovers said.
He, the sorcerer, crafty, wicked, Adawemaun long had spurned;
And the Ojibway, with hatred, for revenge on Amich burned.



"ADAWEMAUN"
BY RINEHART



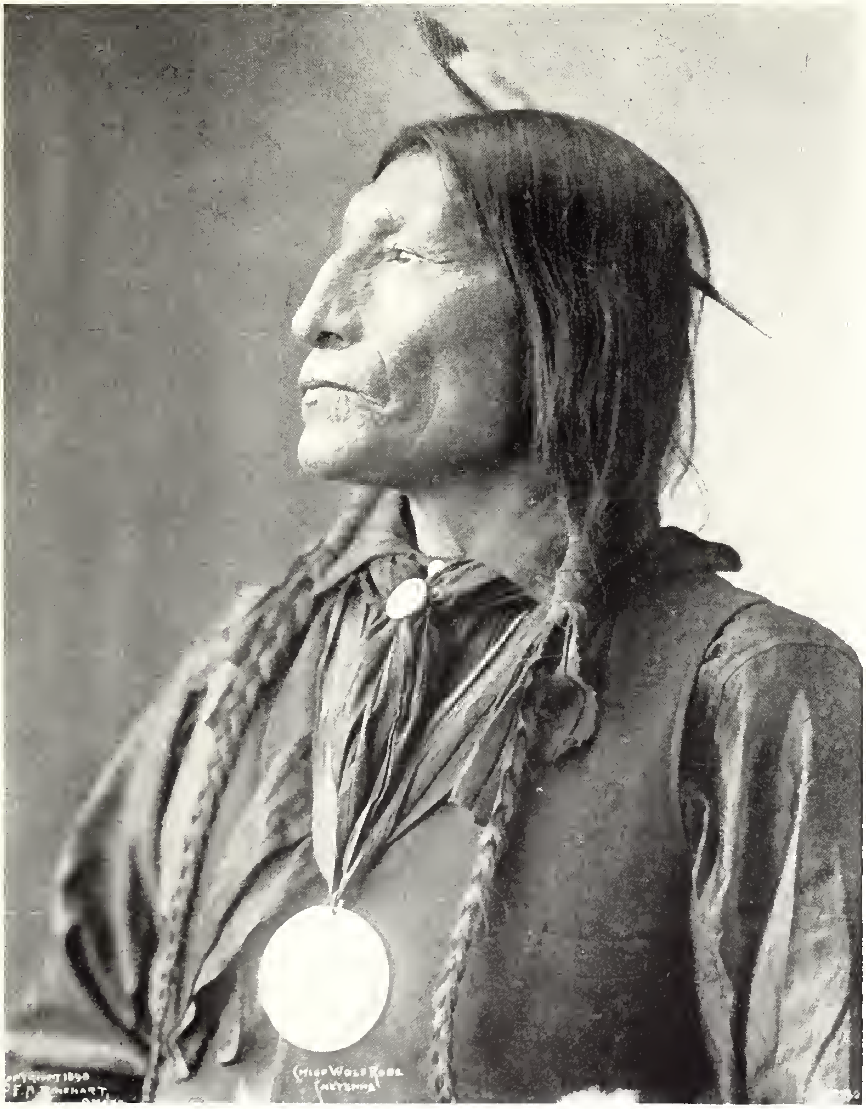
"AMICH"
BY RINEHART

Fleet of foot he hastened forward to Dacotah's chieftain bold;
Then, in strange and hurried whispers, quick the lovers' plans he told.
Light of heart the brave Algonquin towards Desbarat's river hied;
But Dacotah warriors seized him ere the flush of sunset died.

Adawemaun, lonely, waited where the foaming rapids fell,
'Til three crimson sunsets faded, and three moons lit up the dell.
Here for Amich long she waited, but her waiting was in vain,
And her heart with fear grew heavy, as she watched the daylight wane.
Wagoose, in the bushes near her, heard the maiden's anguished cry;
And he softly stepped beside her: "Adawemaun weeps — ah, why?
Not for Amich, the unfaithful, not for him thine eyes must weep;
He will never come to meet thee, nor his promise to thee keep.
I will wed thee, fairest maiden, I will take thee far away,
And thy life will fill with pleasure, like a sun-kissed summer day."
"Stop! — I beg you — though you pleaded on your knees forevermore,
Not unchanged would be the answer that I gave you once before.
Here I'll wait my faithful lover; though it were ten years from now;
He will come — my heart's love, Amich, — come to keep his promised vow!"
"Never will he keep that promise!" Wagoose, in a frenzy, cried.
"He shall nevermore behold thee, thou shalt never be his bride!"
Then he sang an incantation, waved his hands above her head.
Lo! he changed the dusky maiden to a bush of roses red.
"Thus shalt thou remain in sorrow, 'til some hand shall bruise thy bark,
And no man shall know thee ever, 'til thy twigs show scratch or mark!"

Dark Dacotahs held a council, how their captive they should slay;
And they led the brave Algonquin to the stake at close of day.
High they piled the fagots round him; but he showed no sign of fear,
As the tribe with blazing torches, like mad demons, now drew near.
What was that? — a thud, another — Amich, through the ring, goes free!
He had burst the thongs that bound him to the rugged hemlock-tree.
To the river rushed he madly, calling on his sweetheart's name;
But from river, tree, and hillock, back the empty echo came.
Searched he then along the river, through the marshes, but in vain;
And he sought her in the mountains, 'til his heart grew sore with pain.

Yet his footsteps never wavered: winter, spring, and summer waned,
Autumn kissed the golden maples, and their leaves with crimson stained.
Through Time's hour-glass had drifted sands that told a year had sped;
And the harvest moon was rising o'er the tree-tops bathed in red.
Once again unto the river Amich went to mourn his love —
Prayed he there to Gitche Manito, called he on the stars above.
Thus he sat amidst the shadows, with his head bowed in his hands —
He, the brave Algonquin warrior, bravest of the Indian bands.
Loud the cataract was roaring; then it seemed to call his name
As he listened — "Amich! Amich!" clearer from the rapids came.
Swift he rose and looked about him, saw he no one — ah, but hark!



"WAGOOSE"
BY RINEHART

Adawemaun's voice was crying, "Amich! Amich, bruise the bark!"
Could it be the pine beside him, that so softly to him spoke,
Or the swaying, dark red willow that the Indian warriors smoke?
Down he hastened to the river, where these willow trees abound;
But when he had reached the hollow, heard he not the slightest sound.
So his nimble footsteps wandered to the shadowy pine again,
Where the voice grew loud and louder, while its accents rang more plain.
Sudden, then, as if inspired, quick his tomahawk he sped
At the bush beside the river, covered o'er with roses red.
Lo! the petals all lay scattered 'neath the harvest moon's pale light,
And before him stood his sweetheart, veiled in mist of shimmering white.
"Adawemaun, loved one, starlight, ah, the waiting was not vain;
I have searched, and thou hast waited. Oh! we must not part again!"
Clasped he in his arms the maiden, close she clung unto her love,
While the angels' eyes were blinking, in the arch of blue above.
"Whither goest thou, beloved, there will Adawemaun go.
Through the dark primeval forest, o'er the mountains capped with snow.
Lead thou on; yes, I will follow, and thy people shall be mine.
Adawemaun loves thee, Amich; and her heart is only thine!"

Down the river bank they wandered, and in Amich's birch canoe,
Soon the happy pair were speeding, o'er the laughing waves of blue.

Adawemaun, in her wigwam, sits beside the open door,
Weaving vari-colored rushes, as she wove them years before.
And her warrior husband, Amich, sees within his loved one's eyes
Lights that far outshine in splendor stars that gem the moonlit skies.
So in peace the forest lovers 'neath the sun-kissed mountain dwell,
Where the Indians come at even, and their strange, weird stories tell.
Never weary they of telling, while the camp-fire ruddy glows,
Of the legend of brave Amich and his fair Ojibway rose.

A PHOTO ERA TOUR IN EUROPE

(*Continued*)

Cologne, the Rhine, Heidelberg and Strassburg

WILFRED A. FRENCH, PH. D.

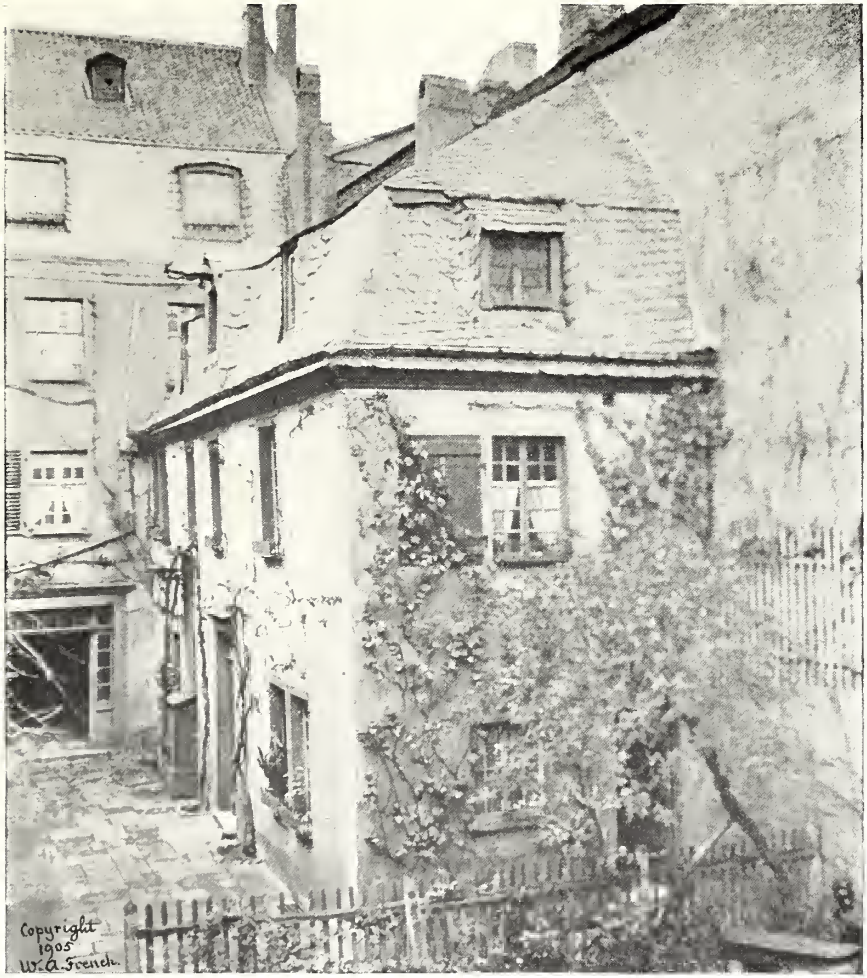
THE journey from Munich to Frankfort, a matter of six and one-half hours by express train, took us through the heart of Germany and afforded many beautiful and interesting sights. None but a commercial traveler or a person indifferent to the beauties of nature, would think of traversing so engaging a section of Europe in a sleeping-car. Few cities, even in America, can boast of such magnificent buildings as Frankfort and, in making comparisons, we concluded that, in this regard, this splendid city led Hamburg and Dresden, as well as Berlin. The superb new buildings of the Exchange, the Post Office, the Central Railway Station, the Theater, the Opera-House, the Town Hall — all won our most profound admiration. One of our party recalled a visit to Frankfort in 1889, when people interested in electricity came from all parts of the globe to witness the most remarkable exhibition of this new power ever seen up to that time. We lost no time in paying our respects to the historically celebrated *Römer* or Town Hall. The modern section, added recently and built in the gothic style, forms a worthy extension of the old edifice, the combined structures being called the *Festsaalbau*. The splendidly-decorated *Festsaal* or Festival Hall, the *Kaisersaal* — containing portraits of the German Emperors from Charlemagne to Francis II — and the *Wahlzimmer der Churfürsten* afforded us ample cause for astonishment. The basement, as is usual in Germany, is occupied by the *Rathskeller*, which, here, is famous for its Rüdesheimer wines, a circumstance our party subjected to a practical and satisfactory test. The superb monuments to Göthe, Schiller, Gutenberg and other great Germans seem to justify the reputation of Frankfort as a seat of learning. Astonishingly few American tourists stop in this interesting city and we were richly repaid for breaking the journey at this point.

The following morning found us in the Schnellzug on the way to Cologne. We devoted an entire day to the wonder of gothic architecture — the cathedral, and assiduously improved the numerous and grateful photographic opportunities presented within and without this enchanting edifice. Where great poets and novelists have penned pæans of praise and exhausted their store of superlatives in admiration of this masterpiece of human genius, it were folly for an ordinary mortal to even think of attempting a description. The wonder is that the great tone poets, Beethoven, Wagner and Tschaikowsky, were not inspired to compose a symphony on so glorious a theme as this masterpiece of the builder's art. Perhaps the new creative genius, Richard Strauss, when he shall have tired of expending his titanic musical resources upon such sensuous themes, as "Don Juan," "Feuersnot" and "Salomé," may turn gratefully to one so noble and exalted as "Der Dom zu Köln." In gazing upwards at the lofty, soaring twin-spires, their distant finials piercing the very azure, the beholder

WILFRED A. FRENCH
COLOGNE CATHEDRAL — NAVE
CHURCH OF ST. URSULA, COLOGNE

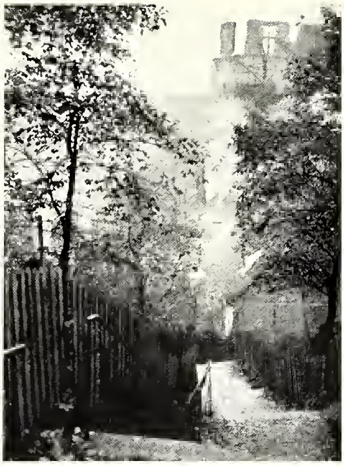
gratefully remembers Emperor William I, who stimulated with word and deed the work of their construction. Thus to him belongs the credit of completing the Cologne cathedral, while history can well afford to assign the honor of a united Germany to Bismarck and Moltke. The illustrated-postal-card-contingent of our party complained one evening that it could not procure a picture of the Church of St. Ursula, remarkable chiefly for the legend of the eleven thousand Virgins. As I knew Cologne by heart, through repeated visits, I offered to secure one with my camera, while the rest might pass the time in the Wallraf-Richartz Museum, with its notable picture gallery, the chief magnet of which is Richter's celebrated portrait of Queen Louise of Prussia. My proposition was eagerly accepted, but I came very near disappointing my friends. Armed with the proper implements of my office, a 5 x 7 Folding Kodak and a compact aluminum tripod, I entered the sanctuary and courageously ascended the winding stairway into the choir-loft. I then coolly adjusted the camera, placed it on the stone ledge overlooking the nave and, pressing the bulb — contemplating an exposure of two and one-half minutes — stepped back, silently counting the passing seconds. During these brief and exceedingly rapid preparations I had not observed two women busily at work cleaning the floor of the enclosure. One of them remarked that it was strictly forbidden for unauthorized persons, like me, to enter. I paid no heed, thinking thereby to be discreet; "Eight, nine, ten" — my thoughts ran busily. "If you do not go away, I shall notify the priest!" angrily called out the artist of the mop. How soothing; how comforting! "Eighteen, nineteen, twenty." I replied in low and measured accents. The officious menial stopped in her work, arose and vanished. "Fifty-one, fifty-two" — and a pale-faced, angry-looking man, an ecclesiastic, appeared at the head of the stairs and drew near, sternly demanding to know by what right I had sneaked into the choir-loft and what my business was. I bowed and smilingly pointed to the camera, inaudibly measuring seconds the while. He glared at me fiercely, then made a rush for the camera silently doing its work on the ledge. I quickly interposed and explained to the irate ecclesiastic my desire to take with me to America a memento of his celebrated church. I was sparring for time. The pastor, quite exasperated, pointed out that for certain reasons he had stopped picture-taking in his church. I urged, in tones meant to be soothing, that I was strictly an amateur and not a sordid professional. In vain I pleaded. He side-stepped and executed a dexterous movement with the intention of seizing the camera, which had reeled off, as I quickly estimated, one hundred and forty seconds. I dashed forward and, quickly grasping the box, pressed the bulb, thus saving the exposure. With simulated nonchalance, but inwardly all excitement, I closed the trusty kodak, remarking in a mournful tone that it was a shame to deprive a lover of beautiful church-architecture, like myself, of an opportunity to carry back to distant Massachusetts a picture of the Church of St. Ursula. "Be off and never return here again!" was the unsympathetic response, and with this I was unceremoniously hustled down the dark and narrow stair, across the vestibule and out into the open. Fearing more serious consequences, I hurried away with my prize, which, fortunately, was registered as the last exposure of the cartridge. Stepping into a neighboring restaurant, I quickly removed the exposed roll of film and replaced it with a fresh one. I was now prepared to face any possible trouble from the local authorities; but nothing happened. I afterwards sent a finished print of the highly successful negative to my officious friend in Cologne. How much would I not have given to watch the expression of surprise pictured in his face! We took our last look at the Cathedral that afternoon, marveling at the harmonious proportions of the nave and transept and lingering long on the glorious stained-glass windows, which the rays of the setting sun had transformed into visions of surpassing splendor. That evening, our last in Cologne, will be long remembered by the musical enthusiasts of our group. They had the good fortune to attend one of the famous concerts given in the historic Gürzenich-Saal, the *pièce de résistance* being Beethoven's "Eroica" symphony and the conductor Fritz Steinbach. This truly great musician, formerly the director of the distinguished orchestra of the Duke of Meiningen, and now leader of the even more renowned Gürzenich orchestra, gave a splendid and impressive interpretation of the great symphony, the one hundred and three men in the band playing like one brilliant virtuoso — an inspiring performance, indeed, and a fitting preparation for our visit to the master's birthplace the following morning.

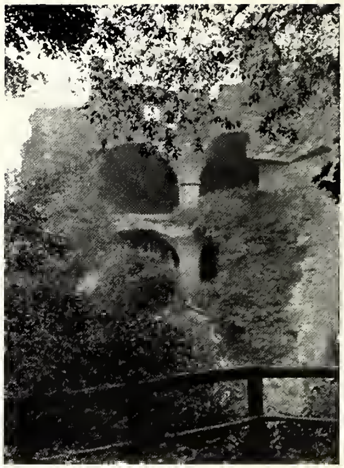
Our brief stay in Bonn, celebrated for its university and for being the birthplace of Beethoven, was marked by an incident peculiar to camerists "who will not be denied." We found the quaint and remarkably well-preserved Beethoven House, with its large and valuable collection of souvenirs of the immortal symphonist, of absorbing interest. The photographs of the historic landmark, for sale only by the custodian, were singularly mediocre, which prompted our enthusiasts to make their own. To this proceeding the old keeper was, however, strenuously opposed, as it was "gesetzlich verboten." Attempts to secure this privilege by means of a *douceur*, failed to move the loyal guardian of the premises. Extremely disappointed we took our leave. Requesting my friends to see the remaining sights of the town and then meet me at the steamboat-landing, ready to take our projected journey up the Rhine, I excused myself on the plea of a special photographic mission and disappeared around the nearest corner. Acting upon the result of my observations in the court-yard of the Beethoven House, I searched and soon found the dwelling-house, from a window of the second story of which I was able to obtain the coveted view, although much too elevated to yield the best result. The outlook from the window of the ground floor was shut off by the high stone wall surrounding the court of the Beethoven House. Having taken my bearings, I went out and procured ten feet of rubber tubing which I attached to the pneumatic release operating the shutter of my camera. Setting the shutter for a one-second exposure, I lowered the camera to the top of the wall by means of a long cord, and with a pole managed to fix it in proper position. An opera-glass, kindly

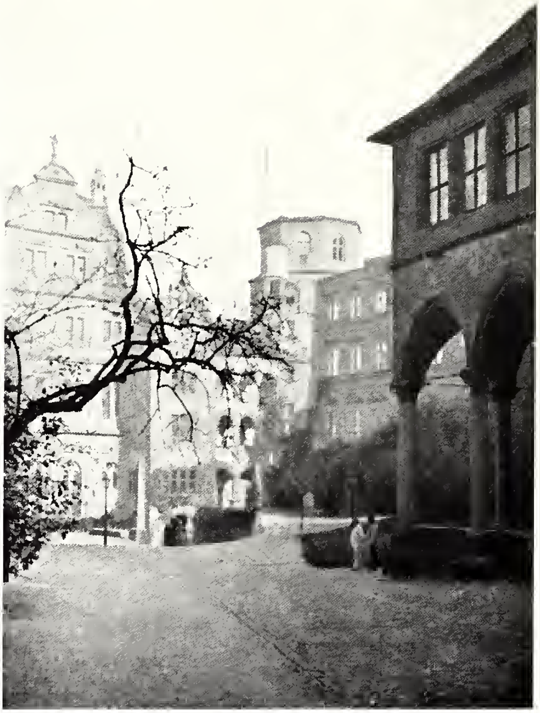


WILFRED A. FRENCH BEETHOVEN'S BIRTHPLACE, BONN

loaned me by the obliging occupant of the room — singularly enough, one of the most eminent musicians in Bonn — enabled me to examine the view in the finder. This indicated an excessive amount of sky; so I drew up the camera and lowered the front-board sufficiently. Once more the camera descended and, after being pulled and pushed into position, was ready for action. A pressure of the bulb and my object was accomplished. Just then the custodian, who was emerging from the house, caught sight of the little black pirate on top of the wall and at a glance took in the situation. It is surprising how easily these staid and phlegmatic Germans lose their temper, and over the merest trifles, too. Shaking his fist at me, the old keeper ran to stop the impending sacrilege, but the moment he reached the spot directly beneath me, he saw







WILFRED A. FRENCH
VIEWS OF HEIDELBERG CASTLE
HILLSIDE PATH
RUINED TOWER
THE COURT

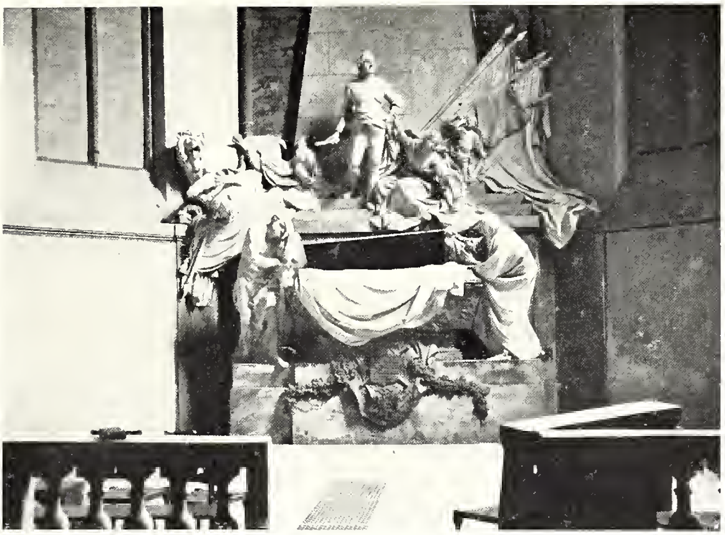
the offending camera gently rise and soar away, as if endowed with wings, never dreaming that its ascent was effected by ordinary means. His rage gave way to wonder and amazement and, shaking his head doubtfully, he retired.

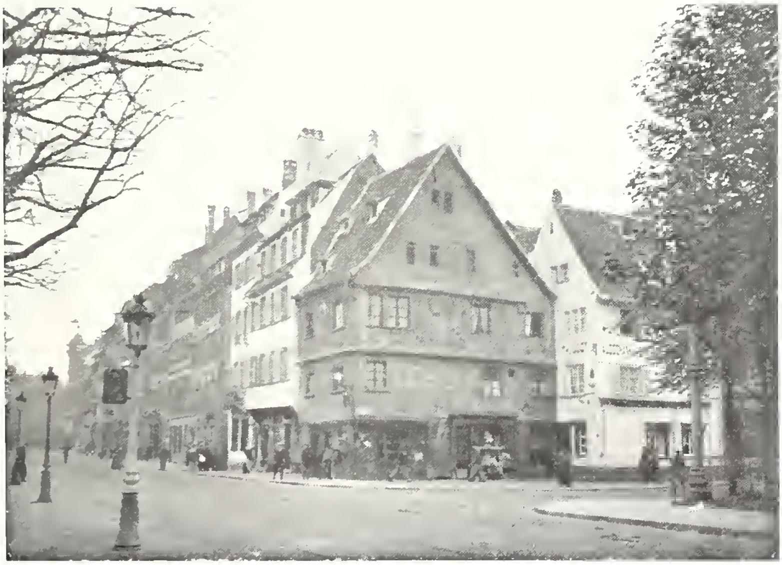
Reassembled at the steamboat-landing, we boarded the "Niederwald," which had left Cologne two hours before, and steamed up the Rhine, bound to Mayence. The sky was overcast and a drizzling rain began to descend, which cast a gloom over our camerists, who had been anticipating a glorious harvest, for between Bonn and Coblenz Father Rhine keeps his rarest treasures, most accessible to our cameras as we had planned. The rising mist, combining with the dense smoke emitted by river steamers and railway locomotives, and nearly obscuring the precious and eagerly-anticipated views, formed a serious obstacle to successful picture-taking. Yet, equipped, as some of us were, with highly efficient apparatus, and profiting by occasional intervals of brightness, we succeeded in capturing a number of promising pictures. All were on the alert, drinking in the ravishing scenes of beauty — castle, ruin, vineyard, hamlet, as each, famed in story and song, passed in rapid review. It was an ever-changing, kaleidoscopic panorama, calling us first to one side and then quickly to the other side of the steamer, until our brains fairly reeled and our necks stiffened and ached. On the whole the trip was full of exciting interest and keenly enjoyed by all. We reached Mayence late in the evening, remained over night and were off to Heidelberg the following morning. *En route* we admired the beautiful hills of the Odenwald stretching for miles along our left.

In spite of the raptures of Göthe, Heine, Scheffel and other great poets, we felt that none of them had done justice to the serene and picturesque beauty of Heidelberg and the Neckar, as viewed from the glorious Old Castle. In strolling along the silent paths of the wood, which so lovingly enfolds the romantic Palatine ruin, we listened in ecstasy to the song of the nightingale and the *amsel*, imagining ourselves in some fairy forest. The soul soared aloft and away, from things material, and seemed transported on the wings of peace into the realms of eternal bliss. — The next day, at the first blush of the morning, we made straightway for the *Schloss*, determined to bag as many as possible of its innumerable and ravishing beauties. We had a photographic feast of rare delight, favored, as we were, with perfect weather. We caught glimpses, too, of German student-life, the genuine sort, and got a good, wholesome taste of Alt-Heidelberg. But away to Strassburg!

In pursuance to a promise made to a fellow-passenger of the "Pennsylvania" — *en route* from New York to Hamburg — we halted at Karlsruhe. It proved to be true German hospitality. Apprised by telegraph of our coming, Herr S. had generously procured seats for all the members of our party at the regular symphony concert in the *Conzert-saal* that evening. Thus, after a famous dinner, in which *Hasenbraten* and *Klösse* shared equally in a conspicuous gastronomic triumph — oh, the memory of that repast !— we reveled in a feast of harmony and song, prepared by that giant among musical conductors, Felix Mottl. The assisting artist was Ernestine Schumann-Heink. Through

WILFRED A. FRENCH
THE RHINE — BOPPARD
THE RHINE — NIEDERSPAY





WILFRED A. FRENCH
MONUMENT OF MARSHAL SAXE, STRASSBURG
STREET IN STRASSBURG

WILFRED A. FRENCH LEAVING THE BLACK FOREST

the courtesy of our host, Herr S., we were permitted to visit the establishment of Oscar Suck, photographer to H. H. the Duke of Baden. Favored by his official position, Herr Suck counts among his patrons H. H. the duke, a fine-looking old gentleman and, perhaps, the most popular sovereign in Europe — not excepting even the king of Sweden and King Edward VII — and every member of his family, also the dignitaries of the realm and most of those high in aristocratic circles, for Karlsruhe is preeminently a city of the aristocracy. Sane, sound and solid — succinctly expresses the quality of Oscar Suck's work. It is also distinguished by a quiet, refined character and never inclines towards the sensational. During the course of conversation we mentioned our extreme satisfaction with the musical conditions of Karlsruhe, which prompted Herr Suck to suggest, that we remain over one train and attend a performance of Haydn's "Creation" by their great chorus of three hundred voices in the *Festhalle*, with Felix Weingartner, conductor. We were familiar with this distinguished musician's incisive and illuminating interpretations of great orchestral works, having seen him conduct the Royal Orchestra in Berlin only a few weeks before. To be present when he was leading a performance of a great oratorio, amid conditions singularly advantageous, was an opportunity not to be missed. Needless to state, we were in attendance. The affair was conspicuously brilliant and successful, and the memory of it became another link in the golden chain of our artistic experiences.

Strassburg, with its wonderful Minster, its ancient and curiously-frescoed houses, the quaint Alsatian costumes and the traditional and tender-hearted stork, presented new and pleasing sensations. The Cathedral, enjoying a picturesqueness all its own, exerted a powerful spell, and we found it difficult, even when warned by approaching darkness, to break away from its fascinating influence. A view from its lofty spire revealed an extensive panorama. To the North and West the Vosges Mountains; to the South, in the extreme distance, the Jura Range, and to the East the neighboring Black Forest. Through this picturesque region we were soon to pass on our way to Switzerland. The following morning the large square, in front of our hotel, presented a novel and animated appearance. It was market-day, and hundreds of peasant women, attired in the unique, national costume of Alsace, were busy disposing of the agricultural products, which they had raised and had brought to town in carts drawn by large and powerful Danes. Unfortunately it was raining. Provided with umbrellas, instead of cameras, we emerged and mingled with the crowd.

The mist, caused by recent, heavy rains, somewhat obscured the view as we moved through the famous Black Forest; but the hills, farms, castle-ruins and other features of this delightful district, which lay within a mile from the railway, could easily be seen and enjoyed. Our route from Strassburg to Basel, admittedly circuitous but purposely extended, lay through Appenweyer — across the Rhine — Offenburg, Hornberg — below and spread out like a map before us — Villingen, Waldshut and Säckingen, taking us over the cog-railway, through the denser and more elevated portions of the Schwarzwald, revealing scenery of a wild and strikingly beautiful character. Through the courtesy of the conductor — bribes, *pseudo* tips, are legally prohibited on German railways — two of us camerists secured seats in the last carriage, from the rear platform of which we exercised successfully our photographic prerogative.

* * *

THE END OF THE DAY

ISABELLA HOWE FISKE

Fair is the elm-tree always,
Yet is its beauty best
When wonderfully outlined
Against a winter west.

Nor do we know another
In his ideal whole,
Until a brilliant sunset
Illuminates his soul.

KATHERINE BINGHAM EASTER LILIES.

AN EASTER SONG

AGNES LOCKHART HUGHES

Lent, in the garden, was over,
And down through the scented aisles
Crowded the sweet Spring blossoms,
Arrayed in their Easter styles.

A choir of feathered songsters
Trilled a hymn from the silver birch;
And the bluebells tinkled a merry chime,
Calling the flowers to church.

In purple, white, and yellow silk
The crocus maids were gay;
But when Miss Hyacinth appeared,
All eyes were turned her way.

The daffodil, in cloth of gold,
With narcissus in white,
Bewildered little snowdrop,
'Til she paled in sheerest fright.

The rustling leaves had opened
Bright parasols of green;
While violets gazed with wide blue eyes,
In wonder, at the scene.

Then down the aisle a lily came,
And sweet her rosary told;
As reverently she touched the pearls
And kissed the cross of gold.

A clover that beneath the fence
Had peeped, to see the style,
Hied quickly to her meadow home,
The grasses to beguile.

When asked, "What Easter fashions
In bonnets did they wear?"
She said, "They all wore diamond dew,
With sunbeams in their hair!"

EDITORIAL DEPARTMENT

"Sweet April! Many a thought
Is wedded unto thee, as hearts are wed."
— LONGFELLOW.

"The groves were God's first temples. Ere man learned
To hew the shaft, and lay the architrave,
And spread the roof above them — ere he framed
The lofty vault, to gather and roll back
The sound of anthems; in the darkling wood,
Amidst the cool and silence, he knelt down
And offered to the Mightiest solemn thanks
And supplication. For his simple heart
Might not resist the sacred influences
Which, from the stilly twilight of the place,
And from the gray old trunks that high in heaven
Mingled their mossy boughs, and from the sound
Of the invisible breath that swayed at once
All their green tops, stole over him, and bowed
His spirit with the thought of boundless power
And inaccessible majesty. Ah, why
Should we, in the world's riper years, neglect
God's ancient sanctuaries, and adore
Only among the crowd, and under roofs
That our frail hands have raised? Let me, at least,
Here, in the shadow of this aged wood,
Offer one hymn — thrice happy if it find
Acceptance in His ear."
— WILLIAM CULLEN BRYANT.

APRIL. EASTER TIDE

WITH the approach of spring, the camera enthusiast, whether young or old, can find much pleasure and interest in nature study, and in picture making. The birds, the trees, the flowers, are all waking into new life; and, even though one has only a general appreciation of these living things, one can enjoy them more with a camera than without. For, the great purpose and benefit to be derived from all picture study is to open one's eyes to the beauties of life and nature on every side — beauties which a trained artist can easily discover, but which an ordinary person might miss. Many a man and woman, after seeing Rembrandt's love for beautiful contrasts of light and shade, in his pictures, will all their lives notice, admire, and enjoy more the exquisite effects of light and shade, in the most ordinary things and places. It may take you some time to come to a full appreciation of this, in art and nature; though, during this month, the opening springtime, has it printed off on every hillside in illuminated text of leaf and flower. But when, at last, you have it, you will be possessed of one of the loftiest and most ennobling pleasures that life can give.

CAMERA EDUCATIVE

IN this sense and from this standpoint, the camera is educative in the broadest and truest way. A thorough knowledge of photography induces a knowledge also of connected lines in scientific and art studies. It is almost inconceivable that a person who has the intelligence and taste for camera work and picture making *should not* also be a person with a mind receptive to these higher influences, which lead to a wider range of knowledge and give a breadth of outlook to the photographer that is uplifting and inspiring. If it only serves to lure him out into the woods and fields during this early spring, it will have accomplished much, since it will open up to him a world of living symbolism full of spiritual significance, much of which may be felt, even if not intellectually analyzed.

THE PHOTO-ERA AND AUTO-ERA

OF all the "fads" which have seized upon and engrossed the minds of men in civilized lands during the past few years, there is perhaps none which has had so much to commend it and which has served such a truly useful and valuable purpose as the auto-car. In fact, the use of the *auto* has become so widespread, has gained *such* a permanent hold upon the interest of the public, and is productive of such real and substantial benefits that it has taken its place among the things that have come to stay. The relation between the auto-car and the *camera* is very close and *intimate.* "Did you see that beautiful landscape picture?" said the chauffeur, whirling along at a mile in half a minute clip. "Which one?" gasped the passenger, struggling to get his breath. As any one can discover who travels in an auto, there are pictures to burn in auto-touring. Equipped with a camera, one finds the pleasures of travel in this way doubled, and one discovers a hundred new beauties and wonders that might otherwise be lost. Recognizing this fact, and believing, as we do, that the auto-car and photography should be wedded together as dignified and useful aids to healthful recreation and profit, we have established a new department in the PHOTO-ERA, devoted to the "Auto-Era." It is hardly necessary to point out to the autoist that the benefits to be derived by him, from the use of the camera, are manifold. Photography is one of the most innocent and inexpensive of all forms of recreation. It requires practically no capital, and no special or technical education; it is, therefore, within the reach of all. The happiness and pleasure to be derived from picture making, on an auto tour, recording experiences exquisite or amusing, as the case may be, is practically without limit. The widespread use of the camera by autoists will do more to cultivate a love of nature and art among them than all other agencies and influences combined. The PHOTO-ERA and the "Auto-Era" are —

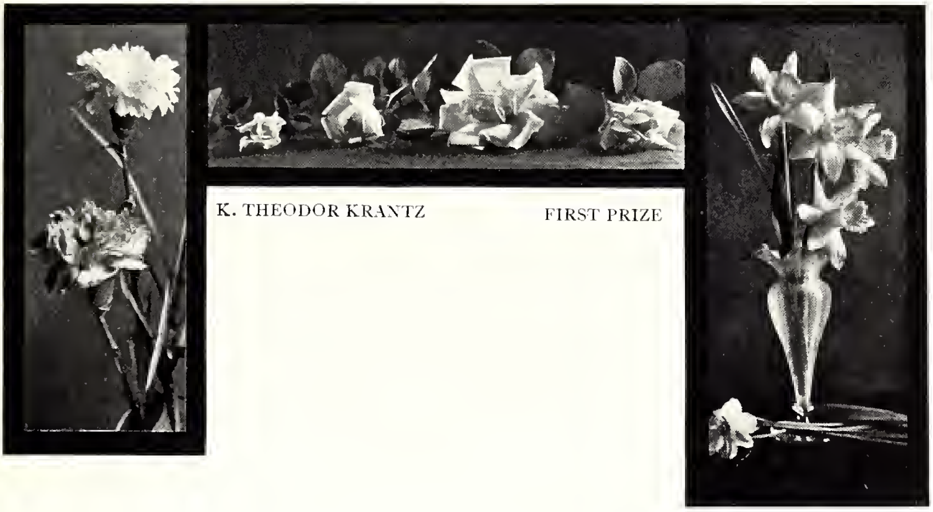
"Two souls with but a single thought,
Two hearts that beat as one."

NATIONAL ACADEMY

THE National Academy of Design and the Society of American Artists of New York have declared for a union, at last, by a formal vote of both bodies. When the report is finally adopted, the members of the society who are not already in the Academy will become associates, the number of which shall be unlimited, while the number of academicians shall be limited to 125 painters, 25 sculptors, and 25 architects or engravers. Then, at the first election of the enlarged Academy, 30 academicians are to be elected, and not more than 10 annually thereafter until the limit is reached. Prizes that have been given to the society will be transferred to the new organization where possible. The name of the Academy is to be preserved as the title of the union, and the Society of American Artists will continue as a body within the Academy. The *American Art News* declares this merger to be the most significant and portentous event in the American art world since the formation of the Society of American Artists in 1878, which was the beginning of what may be called the American Renaissance. It would seem, now that the old Academy and the younger Society are soon to become one body, that there is, at last, after many weary years of waiting and effort, a definite prospect of an annual salon, worthy of the name, in New York, which will represent the art of the country, its present condition and its prospects, as it should be represented. It will give to the artists and the art public the first opportunity under broad and progressive management to display their output of each successive year, and to the latter, also, an opportunity to study this output displayed, in a sane and comprehensive manner. While we welcome this union of forces as furnishing a needed impetus to the cause of American art and artists, we cannot resist the feeling that the addition of the word *photographer* to those eligible for the honors of the Academy would have honored them and would have strengthened the influence of the Academy, with those who are honestly looking for the manifestation of art in any form. American photography, to-day, is showing art in a greater degree than one may find in most contemporary exhibitions of paintings; and while we do not claim for our medium an equality with painting in the matter of artistic expression, we do insist that photography is being exploited, of late years, more intelligently as a mode of real art expression than some of the older mediums. There are many photographs hung in our exhibitions to-day that represent real art — genuine, vital, personal art. Though still an undeveloped medium compared with painting, and though fettered with technical difficulties, when photography goes back to the fundamental laws of art, recognizes design and instils life into a picture by enhancing the blacks and vitalizing the lights into soft gradations of light and shade, the man who does this is an artist, though his recognition, as such, may be delayed.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the PHOTO ERA.



K. THEODOR KRANTZ FIRST PRIZE

"Whan that Aprille with his schow'res swoote,
The drought of March hath pierced to the roote,
Thanne longen folk to go on pilgrimage,
And palmer's for to seeken straunge strondes."

Chaucer was right. When April comes, then do folk "longen to go on pilgrimage." The activity of Nature as, awakening from her long sleep, she rouses all her children of wood and field, stimulates we mortals, too, and one feels in the blood the *wanderlust*, and longs to be up and out and doing.

Few of us are "palmers" with the time or money to "seeken straunge strondes," but we can certainly steal a day now and then and become a "one-day wanderer"; so let us, whenever possible, seize the opportunity to slip away to the fields and woods. More and more we are finding out that open air is one of the best medicines. I am not sure but that we owe to the amateur much of the illustrating of this theory, for the enthusiastic follower of photography stays not for wind or rain or snow when in pursuit of some coveted subject, and is seldom ill.

April is an ideal month for out-of-door camera work while the trees and shrubs wear their first misty covering and boughs stand outlined against the clear soft blue of the sky — the April sky that poets love — and fleecy clouds drift slowly across.

It is the best time of year for "wood interiors," and with proper dress and waterproof foot covering one may wander at will over bog and bush, through swamp and marsh, and find the "year at the spring" the best time of all the round cycle.

TONING PRINTS WITH URANIUM

FOR many subjects a reddish brown print is decidedly artistic, and where one is not familiar with the carbon process he can find a satisfactory process in the toning of his prints with uranium. Platinotypes, gaslight papers and the silver papers may all be toned to a beautiful color with uranium.

The following formula is for the solutions required in the toning of platinotype and bromide prints: —

Solution No. 1.

Nitrate of uranium	½ oz.
Glacial acetic acid	½ "
Water (filtered)	5 "

Solution No. 2.

Ferricyanide of potassium	½ "
Water (filtered)	5 "

Solution No. 3.

Sulphocyanide of ammonium	2½ "
Water (filtered)	5 "

Uranium is an intensifier and therefore platinotype prints which are to be toned with it must be underprinted, or if fully printed, must be underdeveloped. They must be well washed before toning to free them from all traces of developer and the acid used in the clearing bath.

To tone take ½ drachm of Solution No. 1, ½ drachm of No. 2, and add to it 6 oz. of water. In a glass graduate or in a porcelain dish put ½ drachm of No. 3. If the print has been dried, soak it in water till limp, lay it face up in a porcelain tray and flood with the solution; and when the print is thoroughly saturated, drain off the liquid into the dish containing the ½ drachm of No. 3, and pour the combined solution over the print again. Almost immediately the print will begin to turn a warm rich brown, and the longer it remains in the solution the richer red will be the tone. Remove from the toning bath, and place in an acid bath made of 1 oz. of hydrochloric acid (muriatic) to 120 oz. of water. Leave it in this bath for ten minutes, then wash thoroughly and dry.

It sometimes happens that the toning bath turns a muddy color very quickly; in such a case remove the print to a dish of water, and mix up another quantity of the toning solution. If the print is very much intensified, then it may be bleached by soaking for a few minutes in a solution of washing soda made of 1 oz. of soda to 5 oz. of water.

For gaslight papers use Solutions 1 and 2 as directed for platinotypes, but omit No. 3. Gaslight prints should be undertimed, and slightly underdeveloped. When the desired tone is reached, clear in the acid bath, wash and dry.

To obtain sepia tones on the black or gray platinotype paper the paper is first developed, cleared in the acid bath, then toned in a solution made up as follows: —

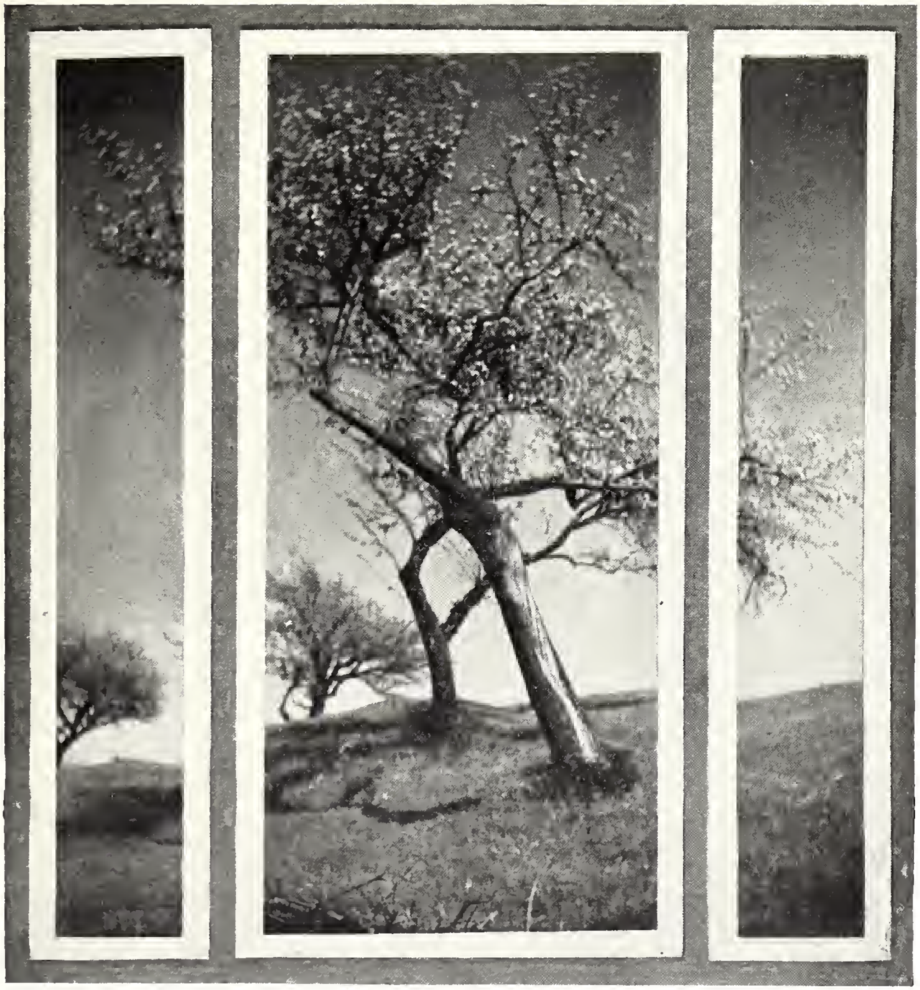
Take 10 grains each of uranium nitrate, potassium ferricyanide, and sulphite of soda; 5 drachms of glacial acetic acid, and 10 oz. of water. Tone in this bath until a rich warm sepia is obtained, clear again in the acid bath, wash and dry.

Some very beautiful effects are secured by this method of toning and intensifying with uranium.

COMBINATION PRINTING

Double or combination printing is the printing from two or more negatives on the same sheet of paper. The apparatus necessary is a large printing frame fitted with a clear glass, plenty of black needle paper — that in which sensitive plates are wrapped will be just the thing — a cake of "Gihon's opaque or Strauss' marl"; "cut-outs" in circles, half circles, squares, ovals and rectangles, and some strong adhesive strips.

Select the negatives and group them in the way in which they are to appear when the picture is finished. Take a sheet of plain paper the size of the sensitive paper to be used and make on it a diagram of the arrangement, in a reversed position of the pictures. This is the guide for the printing. Lay the diagram on the table and place over it the printing frame. Take the first negative from which a print is to be made and attach the cut-out to the glass side by means of adhesive strips. Lay it on the glass of the printing frame in the place indicated by the diagram, cover all the clear glass with needle paper, adjust the sensitive paper in the frame, close and print. A printing frame which has the back opening with double hinges



W. H. PORTERFIELD SECOND PRIZE

is the most suitable for the purpose of combination printing, as the negative must be held in place when examining the progress of the printing.

When the first print is made, adjust the second negative, cover the sensitive glass with needle paper and make the second print, and so on until the negatives are all printed from, then tone and fix as usual.

Printing-out paper is the only paper one can use with an assurance of success, as the printing must all be of the same depth to insure a good picture. The negatives should, as far as possible, have the same printing quality. In printing where a vignetted picture would look better than the cut-out, use the vignetting glass and cover the clear glass as for cut-outs.

Another way of printing from several pictures on the same sheet of paper is to arrange the cut-outs which are to be used on the supporting glass and keep each in place by means of adhesive strips. Paint the reverse side with Gihon's opaque or the marl, very thickly, except the openings, which are to be left for the pictures. The prints can then be made one after the other, care being taken to cover all openings with needle paper, save that through which a picture is being printed.

Illustrations in the magazines will suggest artistic arrangements of pictures.

DEVELOPING POWDERS

Developing powders are put up by most of the firms who manufacture photo supplies. This is a most convenient way, as one can mix the quantity needed, use it, and throw it away, and avoid the oxidizing of solutions by the admission of air. These powders are specially liked by the tourist, who can carry a full supply of them and run no risk of chemicals being spilled in his luggage by the breaking of bottles.

Instead of buying the powders ready prepared, the amateur can easily make up his own from any favorite formula which he is accustomed to use in solution. All one has to do is to perform a small example in division in connection with his formula. If the formula calls for 24 oz. of water, all the chemicals are divided by three, done up in packages properly labeled, and when needed for use they are dissolved in the required quantity of water, 8 oz.

The chemicals should be wrapped in waxed paper, and those for each solution wrapped separately, placed in a small envelope, and on the outside marked with the amount of water needed for the solution, and also the name of the developer, whether hydrochinon, metol, etc.

If to be kept a long time, it is better to store them in a tin box, the boxes in which platinotype paper comes being better than square tin boxes, which are seldom tight at the seams.

An excellent formula for hydrochinon powders is made as follows: for every thirty-grain package of hydrochinon have a package made up of $\frac{1}{4}$ oz. of granulated sulphite of soda, and $\frac{1}{4}$ oz. of carbonate of potassium. When needed for development, dissolve in 8 oz. of water, putting in the hydrochinon first, then the package of sodas. If the developer works too rapidly, add an ounce or two more of water.

Metol-hydrochinon is a favorite developer with many amateurs, the negatives produced by it having excellent printing qualities. The powders are prepared as follows: take 15 grains each of metol and hydrochinon, mix well, and wrap in waxed paper. For each package of the hydrochinon have $\frac{1}{2}$ oz. of sulphite of soda crystals, and 150 grains of carbonate of soda crystals made into a powder. To use, dissolve in 10 oz. of water. Enough material to make 160 oz. of developer will cost less than a dollar.

One will find developing powders a very convenient commodity, and if one has them put up after his own formula, decidedly cheaper than buying ready prepared developers. Economy is one of the things which the amateur must practice, for we all know that photography is a dear pleasure.

IN ANSWER TO SEVERAL INQUIRIES

The "Hallotype" is a colored photograph, so called from the name of its inventor, Mr. J. B. Hall. The process consists in printing two paper positives from the same negative, rendering one transparent by the use of dammar varnish, painting the other and placing the transparent print over the painted one in exact registration. The picture is then backed, covered with a sheet of glass and the edges bound together with passe-partout binding. Any one who can use a brush can paint the picture, as little or no skill is required, the paint being put on simply in washes, without any attempt at shading. The shading and detail is produced by the lines in the transparent picture. The print, toned and dried, is laid on a sheet of glass on which has been rubbed a little glycerine. It is then varnished with dammar varnish and left to dry. If one coat does not make it transparent, a second is applied.

Another way to produce a transparent print is to apply the print to glass and remove the paper, leaving the film on the glass. Take a spoiled negative the size of the print, clean it and polish with French chalk to remove any possible trace of grease. Varnish the glass with a varnish made of 1 oz. of balsam of fir and 2 oz. of spirits of turpentine. As soon as the varnish begins to set, take the print, which must be thoroughly wet, blot off the moisture from the face, lay it face down on the glass and squeegee into place, taking special care that no air blisters remain between the glass and the picture. The paper can now be removed by rubbing it gently with the fingers, moistening it with a wet sponge as it dries. When the paper is removed, varnish the film and set it away to dry in a place free from dust. One can now paint directly on the back of this picture, using colors which correspond to the objects represented. No special shading is needed. If water colors are used, mix with Chinese white to give them body, but oil colors work the best and give the most satisfactory results.

While these pictures are certainly not "high art," they are often very attractive little souvenirs, and are very appropriate as name cards for a company which has enjoyed an outing together, and of which the picture perpetuates the memory.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00.
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts, or other photographic materials advertised by us; or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in THE ROUND ROBIN GUILD, with all its benefits, — among which the correspondence privilege probably stands first, — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is limited to subscribers to PHOTO-ERA.

SUBJECTS FOR COMPETITION

March. — "Trades." Pictures entered in this competition should be illustrative of the various employments, such as blacksmithing, shoemaking, tailoring, and the like. Closes April 30.

April. — "Portraiture." Closes May 31.

May. — "Mother and Child Pictures." Closes June 30.

June. — "Garden Scenes." Closes July 31.

AWARDS — DECORATIVE PHOTOGRAPHY

First prize: K. Theodor Krantz, 211 Prospect Street, South Orange, N. J.

Second prize: W. H. Porterfield, Buffalo, N. Y.

Third prize: Grace E. Mounts, Morrow, Ohio.

Fourth prize: George G. McLean, Carpinteria, Cal.

Honorable Mention: F. S. Andrus, F. E. Bronson, Thomas M. Burrell, Mrs. R. Campbell, L. S. Clough, Fred. Farrington, Paul Fournier, Phil. Hexom, Mrs. Andrew Jackson, G. Edwin Keller, F. P. Lotz, Paul R. Morrison, Bradda L. Ogden, William O. Ruse, A. S. Smith, William Spanton, Mrs. Clara Turner, R. E. Weeks, F. L. Wilcox, C. M. Whitney.

ANSWERS TO CORRESPONDENTS

SALLY W. — Almost any paper may be used for the applying of blue-print solution, but if you wish to make a blue-print book, the prints to be made directly on the leaves of the book, buy Whatman's drawing paper, smooth, light weight. The prints when made are then bound in book form. In making the prints, do not place the picture directly in the center of the paper. Leave a margin at the side for binding. One can make up very attractive souvenirs of summer journeys in these blue books, which are inexpensive and easily and quickly made, and added to that quality is the fact that the prints are permanent.

FRED. H. DEANE. — The photographic paper, on which to make prints for reproduction and which is most generally liked by publications, is the glossy paper in brownish red tones. Platinotypes do not reproduce as well as the glossy papers, the detail being in a great degree lost in the reproduction from such a print. Any of the illustrated papers are glad to get prints of unusual subjects and your nature studies, especially of the musk-rats and wild squirrels, ought to find a ready sale.

CARL. D. S. — The negative from which your print was made is evidently very much overexposed. There is no remedy for such a hopeless looking plate, and your only resource will be to make another negative of the same subject when you have the opportunity. An exposure meter is a very helpful adjunct in cases where one is doubtful about length of exposure.

BERTHA B. — To sensitize silk for printing, have the silk washed free from dressing, but do not wring it. Let it hang up to dry as it is taken from the water. When dry, immerse it for three minutes in a salting bath made of salt, 50 grains; chloride of ammonia, 50 grains; liquid ammonia, 75 drops; water, 5 oz. Pin up to dry on a flat surface, stretching it at the corners and ends so that it will dry without wrinkles. When dry, sensitize with a nitrate of silver solution prepared in the proportion of 150 grains of nitrate of silver to 1 oz. of water. In sensitizing, the silk should be pinned taut to a board, the solution applied with a wide brush, going over the surface first one way then the other, until the fabric is evenly and thoroughly covered with the solution. Dry in a dark room and print as for paper. Tone in any good toning solution.

ALLEN D. — The yellow stains on your negative caused by the pyro developer may be removed by immersing in a solution made as follows: iron sulphate, 1½ oz.; sulphuric acid, ½ oz.; alum, 1 oz.; water, 10 oz. The plate must be washed free from all traces of hyposulphite of soda, then placed in this solution until the yellow stains disappear. Wash well and dry.

PAUL T. — The envelope which you enclose and which you suggest as a good one for filing negatives is not as good for that purpose as the commercial envelope. This latter envelope opens at the end, is of stout manilla paper, and has a crescent cut in the open end which makes it convenient to remove the negative from the envelope. These envelopes are very cheap, and you will find them far better than those you think of buying. Yours opens at the side and has a flap, while the commercial envelope is simply a paper pocket.

ELEEN FRENCH. — Do not have photographic solution put up at a druggist's. The prices they charge are more than double what you would have to pay a dealer in photo supplies, and you could not get all the materials needed at a druggist's. You will find it cheaper to send to town for the necessary ingredients. Most of them may be bought in dry form, and you can order the necessary quantity of each needed for a solution, and then combine them yourself. See formula for developing powders in this number.

SHELTON G. — "Flatness of field" is the term used to express the power of a photographic lens to reproduce or render the lines in the middle of a picture and those at the side according to the rules of true perspective, and at the same time to have them of equal distinctness.

JANE ELDER. — Glycin is a developer which gives very clear and delicate images if a slow developer is used and plenty of time allowed for development. It brings out detail in the shadows, and produces a negative which is specially good from which to make lantern slides. A formula which is very well liked is made of 24 grains of glycin; ⅔ oz. carbonate of potassium, and 16 oz. of water. Be sure to carry the development to the proper depth.

The Crucible

CARBON PRINTS FROM FLAT NEGATIVES

THE following process is recommended by a writer in the *Prager Tagblatt* for obtaining deep black tones from flat negatives: When the print has been thoroughly freed from bichromate, it is immersed in a 1 per cent solution of ferric chloride, till the film is saturated; then briefly washed and immersed in a 0.5 per cent solution of gallic acid, till sufficient intensity is obtained. If a ferrous salt is used in place of the ferric, and tannin or campechy wood used instead of the gallic acid, any tones from bluish red to blue-black can be obtained. In order to obtain greenish blue tones, ferrous sulphate, followed by potassium ferrocyanide, should be used. These processes are not new, and there is considerable chance of obtaining stained papers by this method.

CLEARING BROMIDE PRINTS

IN clearing up and brightening up a bromide print, removing surface markings or yellow stains or slight fog, the following bath will be found of great service. It should be applied after fixing and washing, the prints being left in until the desired clearing has taken place, and then removed and well washed: —

Thiocarbamide......	20 grs.	4.6 gms.
Citric acid..........	10 "	2.3 "
Water.............	10 oz.	1000 c. cs.

This bath will not work unless all traces of hypo have been removed from the print.

CLEARING GUM PRINTS

SEVERAL workers are now using a five per cent solution of sodium bisulphite to eliminate the bichromate. They claim that it acts more quickly and efficiently than the alum bath, completely eliminating the bichromate and giving absolutely pure whites.

DEVELOPING MOUNTAIN VIEWS

EVERY photographer who has had any experience in making views of mountain scenery, especially if the views are of snowy peaks, such as are met with in the Alps or Canadian Rockies, knows that proper development of the exposures is as important as it is difficult. Many different developers have been suggested, but Karl Wipplinger, whose beautiful mountain scenes in the Tyrol and elsewhere are the admiration of all who have had the good fortune to see them, has always advocated a pyro-acetone developer. His formula is as follows: —

Water.......	1000 c. cs.
Sodium sulphite.............	400 grams

When dissolved, filter and add: —

Sulphuric acid, pure..........	16 drops
Pyro.......................	28 grams

For use, 25c. cs. is mixed with 75 c. cs. of water, and to this

Acetone (white)..............	3 c. cs.

is added, well stirred, and applied to the plate. After about a minute and a half 7 c. cs. of acetone are added by degrees. The total time of development is eight or ten minutes.

For amidol, the following is recommended: —

Water......................	1000 parts
Sodium sulphite (dry).........	20 "
Amidol......................	8 "
Bromide sol. (10 per cent).....	4 "
Acetic acid, glacial...........	4 "

ACID DEVELOPERS

ENCOURAGED by the experiments of Balagnys with amidol developers in acid bisulphite solutions, M. Maes has experimented with other developers in similar combinations and obtained excellent results. Strongly alkaline developers work very rapidly, but are liable to cause frilling, and besides, one has little chance to correct overexposure by modifying the developer.

For slow development, thin, fine-grained, and fogless negatives, M. Maes recommends the following formula, claiming for it suppression of halation, latitude in exposure, and other advantages: —

Distilled water	1000 parts
Sodium sulphite (dry)	20 “
Potash	8 “
Pyrogallol	8 “
Potass. bromide (10 per cent sol.)	3 “
Glacial acetic acid	3 “

The development with this solution proceeds slowly, the image appearing in about two minutes and the development is complete in from ten to twenty minutes. In character the negatives resemble those produced with wet collodion. When the image shows up in a minute and a half the plate has been overexposed, in which case two or three drops of bromide solution or of acetic acid should be added; if, on the other hand, the image does not appear in two minutes, a slight addition of potash is to be made.

ADUROL FOR WARM TONES IN BROMIDE PRINTS

Mr. Thomas Mitto has made a large number of experiments with adurol as a developing agent, and recommends it highly for producing various tones in bromide papers. For this purpose he employs the following solutions: —

I.	Sulphite of soda	120 parts
	Water	300 “
	Potassium carbonate	90 “
	Adurol	15 “

II. Bromide of potassium, ten per cent solution.

III. Bromide of ammonium, ten per cent solution.

IV. Carbonate of ammonium, ten per cent solution.

For *black* tones, give normal exposure and develop with the following mixture:—

Adurol solution (I)	1 ounce
Water	10 ounces
Bromide solution (II)	10 minims

Development is complete in from one to two minutes.

For *sepia* tones the exposure should be from one and a half to three times normal, and the following developer should be used: —

Adurol solution (I)	1 ounce
Water	12 to 30 ounces
Bromide solution (II)	10 to 30 minims

The more water and bromide used, the warmer will be the tone. Development takes from two to three minutes.

For *brown* or *purple-brown* tones the exposure should be two or three times normal, and the developer should be as follows: —

Adurol solution (I)	1 ounce
Water	20 to 30 ounces
Bromide solution (II)	30 minims
Ammonium bromide (III)	½ to 1 drachm
Ammonium carbonate (IV)	½ to 1 drachm

Development requires from five to ten minutes.

For *brownish red* tones give six times the normal exposure and develop with:—

Adurol solution (I)	1 ounce
Water	60 ounces
Potassium bromide (II)	30 minims
Ammonium bromide (III)	½ to 1½ drachms
Ammonium carbonate (IV)	1½ drachms

Development requires twelve minutes.

For *reddish* tones give fifty times the normal exposure and develop in: —

Adurol solution (I)	½ ounce
Water	50 ounces
Potassium bromide (II)	15 minims
Ammonium bromide (III)	1 drachm
Ammonium carbonate (IV)	1 “

From fifteen to thirty minutes is necessary for complete development.

BRUSH UP

At this season of the year you begin to expand your lungs and to figure on all the good times in the open.

Naturally, with you, your kodak receives attention. Out it comes for a thorough examination; you want to feel sure that it will be in shape to deliver the goods. We might suggest that in the general overhauling that you do not neglect yourself. Are you in position to deliver the goods?

You want not only to make as good pictures as you did last year, but a whole lot better. If there are any good prizes floating around, you want your share.

In these strenuous times you must remember that he who does not progress goes backward — no standing still. The idea is, brush up.

Reading the photographic magazines will help a lot, but it is sometimes difficult to find just what is needed to fit your particular case. Here's a good suggestion: beg, buy, borrow or steal a copy of "The Modern Way in Picture Making," published by the Eastman Kodak Company; it's the biggest dollar's worth of good, sound, practical information ever bound between covers. No long, meaningless, technical terms, but terse, snappy articles on every photographic subject.

If you can't borrow one, ask your dealer.

QUICK ACTION

There is an immense amount of satisfaction in pictures depicting action or animation and where people seem to be doing something. Perhaps one source of attraction is the difficulty in making pictures of this sort, requiring, as it does, a keen eye for selection and apparatus practically always ready for action.

There has long been a demand for an inexpensive, unobtrusive, always ready camera, suitable for such work, and the new 3B Quick Focus Kodak exactly fills the bill; in fact, it is one of the best all-round cameras on the market and will find ready appreciation.

The focus for any distance is instantly adjusted, the pressure on a concealed spring jumps the front out the proper distance and the subject has to be pretty swift to get away unrecorded.

The 3B makes the popular size picture $3\frac{1}{4}$ x $5\frac{1}{2}$ and the low price, $12.00, does not detract from its other attractive qualities.

SOMETHING NEW

Looking for some new way to make use of your kodak negatives, some way to make an effective and novel display of your work?

Of course you make post cards and have sent out dozens on velox and sepia.

Now try a few on the new Eastman Ferro Prussiate post cards; they afford the daintiest delft blue pictures imaginable, not a bit like the ordinary blue-print. If you will read the Eastman Kodak Company's ad. in this issue, you will find a novel suggestion to make the friends you favor with your post cards, one that will assure your work being kept and appreciated for many a day.

WILD FLOWERS WITH A KODAK PORTRAIT ATTACHMENT

Right off the reel you wouldn't imagine that a lens purchased for half a dollar would or could be of much advantage in serious work.

We can, however, mention one brilliant exception and that is the Kodak Portrait Attachment. This little supplemental lens has been on the market and well advertised for a number of years, but from the fact of its being advertised as a portrait attachment the amateur has overlooked many of its advantages.

The object of this lens is to permit of sharp focusing up to $3\frac{1}{2}$ ft. and consequently affording a larger image. Just this advantage makes it exceedingly valuable in photographing any small object, such as wild flowers, small animals and in fact any object that would appear too small in the print when focused at 8 or 10 ft., the ordinary capacity of the kodak.

Many photographers make it a point always to carry one of these attachments with them on every outing, as conditions are constantly arising wherein this little lens becomes invaluable.

From the M. A. Seed Dry Plate Co. we have received a copy of "The Art of Negative Making," an attractive little booklet of photographic pointers on lighting, exposure, development and many dark room hints and suggestions. While the booklet is issued primarily in the interests of the ever popular Seed plates — describing their manipulation and the purposes for which each brand is especially adapted — it contains a wealth of photographic ideas which are valuable to every worker. A copy of the booklet will be sent upon application to the M. A. Seed Dry Plate Co., St. Louis, Mo., and we feel confident that every serious photographer will find it of assistance.

Apropos of the forthcoming International Photographic Exhibition to be held at Paris from July 16 to October 10, this year, the particulars of which were given in our last issue, it is stated that the affair will be minus the cooperation of several notable photographic organizations. It appears that the Photographic Society of France, the Paris Photo Club and the Excursion Society or Field Club have decided to abstain. While the attitude of these august bodies towards the Paris exhibition is to be deplored, inasmuch as it will influence the action of photographic clubs and individual workers in other sections of Europe, there is doubtless a sufficient number of practitioners in France and other countries throughout the civilized world, to make the project not only possible, but a success. Workers in this country, desiring to obtain direct and authentic information in relation to the matter, may address M. Louis Gastine, Commissaire Générale, Exposition Nationale de la Photographie, Grand Palais des Champs Elysées, or 12, Place Vaugirard, Paris, France.

THE SECOND ANNUAL MEETING OF THE PROFESSIONAL PHOTOGRAPHERS' SOCIETY OF NEW YORK AT THE HOTEL ASTOR, APRIL FIFTH AND SIXTH, 1906

While the Second Annual Session of the P. P. A., of N. Y., will be strictly business, we realize that

" All work and no joy
Makes Jack a dull boy."

For that reason we chose the Hotel Astor as our headquarters. The life of Greater New York radiates from this center and Host Muschenheim and his able lieutenants have had an unlimited experience in seeing that guests of the hotel enjoy, to the fullest extent, the pleasures of the city. The hotel is a city in itself, yet our members will be so assembled that they can be in continual touch with one another at all times.

A committee of prominent members has been appointed to meet the incoming members, and in all probability the committee will see you first. In any event, all you need do is to report to headquarters, the committee will attend to the rest.

The meetings will be held in one of the banquet halls each day, from 1 to 5 P.M. This will leave the mornings free for a careful inspection of the "Single picture" Exhibition, informal discussion and visits to the leading studios. Receptions will be tendered the members at the following studios: Bradley Studios, Alman & Co., Joseph Byron, E. B. Core, Dana Studios, B. J. Falk, Pirie MacDonald, Schloss, E. F. Foley, Theodore Marceau, Pach Bros., Rockwood, Otto Sarony, Inc., Burr McIntosh, Gessford.

For the evening of the first day the committee has prepared a surprise, the nature of which has been kept a dead secret. The smoker will take place on the night of the second day. This will be one of the most unique entertainments ever given by a photographic organization. It will take place in the famous wine cellars of the hotel and, with the exception of the attendants, the members will be as absolutely alone as if they were in the midst of the Sahara Desert — though not so dry, perhaps.

Women members and wives of members will be taken in charge by a special committee, who will see that they do not regret their absence from the smoker.

Finally, the Society intends to make it so entertaining for you in a business and social way that you cannot afford to stay at home. You need the wider perspective that this meeting will give you. You need the bit of relaxation from the daily grind; the comfort of association with your fellow workers from all over the state and country and the Society expects to see you in New York on the morning of April 5.

Jos. Byron
Geo. H. Rockwood
Pirie MacDonald
Burr McIntosh
Walter E. Talbot
Entertainment Committee.

Aside from the cover papers manufactured by the Mittineague Paper Company of Mittineague, Mass., as shown by the covers used of Photo-Era the past fifteen months, this firm also manufactures papers that may be sensitized for photographic prints as well as another paper for gum printing. For sensitizing, their Strathmore Japan Book paper and Strathmore Detail drawing-paper are exceptionally desirable. Both papers are carried in a white and cream, are manufactured from pure rags entirely and free from chemicals of any nature. They are not, however, manufactured especially for photographic work, so the company does not guarantee them; still they are being used by many with gratifying results, thereby securing artistic effects not possible with the prepared papers and no one need have doubts as to their practicability.

For gum printing their Strathmore Deed has all necessary requirements. It is the best grade of Bond paper manufactured, and nothing but the choicest rags are used. It is properly sized and carried in weights that offer quite an assortment.

Samples of any of these papers will be gladly furnished by the company upon request.

From the Blair Camera Company, Rochester, N. Y., we have received a handsome booklet which they will be pleased to send to any of our readers on request. The booklet is prepared with the usual good taste which characterizes the literature of this concern, and describes fully all of the well-known Hawkeye cameras and supplies, particular attention being given to the popular Folding Hawkeyes. The integrity and sterling reputation of this long-established concern speak for the excellence of its goods, which are universally popular.

A BIG HELP

Possibly you have wondered why So-and-so's pictures seemed to possess qualities you were unable to obtain, delicate fleecy clouds in the sky and a wealth of detail and half-tone in foliage, instead of blank white sky and black formless shadow masses in the verdure and trees. Undoubtedly his success was due to the use of orthochromatic plates. You of course have heard of them and their advantages over the ordinary plate, but have been deterred from using them, due to the mistaken idea of the difficulty in handling.

As a matter of fact, the orthochromatic plate is very easy to handle, only requiring a little more care and affording results amply worth ten times the extra precautions necessary.

The Seed orthochromatic plate is particularly well adapted for the all-around work of the amateur, as it possesses the exceedingly fine grain of the famous 26 x, as well as the color sensitive features.

In taking up your spring work we earnestly suggest your making use of the Seed ortho.

THE reception and lecture planned in honor of Edward S. Curtis of Seattle, Wash., the distinguished photographer of Indian life, was successfully carried out at the Garo studio, Boston, on March 12. A good-sized audience, composed of representatives from Harvard University and the Institute of Technology and the artistic and photographic fraternity of New England were present, and enjoyed to the fullest the beautiful pictures and the eloquent descriptions of Mr. Curtis.

The editor of PHOTO-ERA, Mr. Thomas Harrison Cummings, introduced the lecturer on behalf of his colleagues of the PHOTO-ERA staff, who had planned the reception. The lecturer talked in an informal way, and the evening's discourse took on something largely of the character of personal reminiscences; the tribal life of the Indians, their ceremonials and customs were touched upon at length by him. For over eight years he has buried himself in the deserts and prairies, following the Indians from place to place and reproducing through the aid of his camera the different aspects of their lives. His portraits of famous chiefs among the Navajos, Sioux, Nez Perces and Crows were intensely interesting as described by him. His painstaking, tireless, and persistent energy in gathering facts concerning their domestic lives prove him to be a scientist of no mean ability. He has received recognition from President Roosevelt and the Bureau of Ethnology at the Smithsonian Institution in Washington.

Mr. Curtis is about to publish a series of fifteen or twenty volumes containing his researches and illustrated with large, full-page photogravures, of which he has now something like three thousand copyrighted negatives to draw upon.

The beautiful pictures of his collection hung upon the studio walls showed him to be an artist photographer of the first rank; and the editor of PHOTO-ERA, in his introductory remarks, laid special stress upon this side of his work. He showed how design and the creative imagination of the artist had lifted the Curtis pictures almost to the level of fine arts. An artist first thinks of his subject in a certain effect or design. In photography he thinks of his subjects in lights and shades, beauty of line, balance and proportion, etc., and having created the effect he imagines, he then takes its picture. In this way the creative imagination comes into photography with design; and when they both come into any art, that art is a fine art.

It is not so much the beauty of the subject as the beauty of the form, which the imagination of the artist gives to the subject that constitutes fine art in photography.

Mr. Curtis will, later on in the early part of April, lecture at the St. Botolph Club.

1905 KODAK COMPETITION

OVER twenty-eight thousand prints were received in the 1905 Kodak Competition, and it is a pleasing fact that the average quality of the work was much higher than in any similar competition.

The task which devolved upon the judges, Messrs. Chas. I. Berg, Henry Troth, and A. Radclyffe Dugmore, was by no means a light one, but, nevertheless, we feel confident that they carried it through with conscientious thoroughness.

As usual, many of the winning names in the open classes are familiar ones to all photographers, which fact justifies the Eastman Kodak Company in having novice classes from which the old prize winners were excluded. Such a division into "open" classes, in which the experienced and successful workers compete with each other, and novice classes, in which the less experienced vie with each other for prizes and honors, is, to our mind, manifestly equitable.

A list of the awards will be found on pages 283 and 284 of this issue.

LIST OF AWARDS

Class A. — Open

($3\frac{1}{4} \times 4\frac{1}{4}$ or Larger)

First prize, $150 Gold: E. Steichen, New York City.

Second prize, $100 Gold: Mrs. Nancy Ford Cones, Covington, Ky., "Threading the Needle."

Third prize, $50 Gold: Alfred Stieglitz, New York City, "Kodaking."

Fourth prize, $25 Gold: John Dolman, Philadelphia, Pa., "Pastoral."

Ten dollars each and Honorable Mention: Mrs. Myra A. Wiggins, Salem, Oregon, "Shadows"; Miss Nellie Coutant, Crawfordsville, Ind., "Toward the Setting of the Sun"; Annie W. Brigman, Oakland, Cal., "Dream"; Miss E. A. Whieldon, Eccleshall, Leamington, England, "In the Highlands"; Helen P. Gatch, Salem, Oregon, "Coming Storm"; F. H. Kelly, Haverstock Hill, London, N. W., England, "In the North Aisle"; G. A. Lee, Baltimore, Md., "A Foggy Morning — New York Harbor"; Sidney C. Durst, Cincinnati, Ohio, "An Autumn Morning"; Wm. S. Rice, Stockton, Cal., "Watching the Boats Go By"; Daniel Dunlop, Motherwell, Scotland, "A Bye Lane."

Class B. — Open

($3\frac{1}{2} \times 3\frac{1}{2}$ or Smaller)

First prize, $100 Gold: M. E. Brockbank, Southport, England, "Study in Sunlight."

Second prize, $50 Gold: James M. Browning, Dunardrie, Bridge of Weir, Scotland, "Evening."

Third prize, $25 Gold: Mrs. G. A. Barton, Hartopp Rd., Birmingham, England, "Isevet of Brittany."

Ten dollars each and Honorable Mention: H. H. Burns, 33 Claremont Terrace, Edinburgh, Scotland, "Interior of Smithy"; E. B. Vignoles, London, W. C., England, "Decorative Study"; Jenet Hamilton, London, W., England, "Waiting for the Ball"; John S. Neary, Trenton, N. J., "Go Get It, Fido"; Myra A. Wiggins, Salem, Oregon, "Hallowe'en."

Five dollars each and Honorable Mention: Clarence Ponting, Scarborough, England, "The Novel"; Rev. R. E. Vernon Hanson, Leicester Sq., Dublin, Ireland, "By the Water's Edge"; H. B. Conyers, Urbana, Ohio, "A Day in June"; E. Hornor, Media, Pa., "Daisies"; Mrs. Nancy Ford Cones, Covington, Ky., "Caught Napping."

Class C. — Open

(Enlargements)

First prize, $150 Gold: Dr. Alfred Miller, Hatton Asylum, Warwick, England, "The Parting of the Ways."

Second prize, $100 Gold: E. Steichen, New York City.

Third prize, $50 Gold: Laura Adams Armer, Berkeley, Cal., "Mother, may I go out to Swim?"

Twenty dollars each and Honorable Mention: Alfred Stieglitz, New York City, "Soap Bubbles"; Annie W. Brigman, Oakland, Cal., "Melody"; Harold Baker, Birmingham, England, "The Fairy Tale"; Walden Shaw, Chicago, Ill., "Old Bridge at Villeneuve"; H. B. Conyers, Urbana, Ohio, "Jason."

Class D. — Novice

($3\frac{1}{4} \times 4\frac{1}{4}$ or Larger)

First prize, $100 Gold: Harriet Lynam, Concord, N. H., "Early Morning in the Fog."

Second prize, $60 Gold: W. A. Wilson, Idaho City, Idaho, "A Gray Day."

Third prize, $40 Gold: Elizabeth M. Rice, Stockton, Cal., "Confidences."

Ten dollars each and Honorable Mention: R. Mathee, A' Soindres, Paris, France, "Plaisir des Vacances"; T. W. Allen, Paris, Ky., "Driveway at New Forest, Bourbon Co., Ky."; Dr. Albert R. Benedict, Montclair, N. J., "Golden Locks"; Benj. W. Guppy, Woodfords, Me., "The Passing Show"; Francis A. Tinker, Sheffield, England, "By the Canal Lock."

Five dollars each and Honorable Mention: Miss Helen Campbell, "Oatlands," Abbey Lier, Ireland, "Soft Gray Sky and Dreaming River"; Mrs. Henrietta Hasbouck, Davenport, Iowa, "While the Cook's Away"; Miss Sheila Jamieson, Hewletts Rd., Cheltenham, England, "A Wet Day in Old Paris"; Jessie Murray, Wolverhampton, England, "A Misty Morning"; J. W. Stanley Burmester, Fairhouse, Grange Rd., Sutton, Surrey, England, "Lambader, Brittany."

Class E. — Novice

(3½ x 3½ or Smaller)

First prize, $75 Gold: S. Virginia Atwell, Worcester, Mass., "Gateway at Old Oread."

Second prize, $40 Gold: Johannes Noack, Friedeman, Berlin, Germany, "Heimkehr von Felde."

Third prize, $25 Gold: Arch. McVicar, Greenock, Scotland, "The Nave — Glasgow Cathedral."

Fourth prize, No. 4 Cartridge Kodak: Miss E. Barratt, The Poplars, Klevedon, Essex, England, "In the Breeze."

Fifth prize, No. 3A F. P. Kodak: Dr. F. W. Robertson, Wimbleton, London, S. W. England, "Watching the Waves."

No. 3 F. P. Kodak and Honorable Mention: Edgar M. Chapman, Cairnsmore, Manor Rd., Scarborough, England, "Early Morning"; W. E. Angear, Beckleigh, Roborough R. S. C., S. Devon., England, "Sutton Pool"; Miss E. H. Southwell, Bastia, Corsica, "Olive Trees — Corsica"; Miss Jean Stirling, Chicago, Ill., "A Freight Carrier on the Nile"; Chabert de Brack, Paris, France, "Barque de Pecke"; Jennie Ray, Spokane, Wash., "Mother"; Margaret Pierrepont Banks, Maida Hill, London, England, "Tittleworth Bridge"; Mrs. S. M. Hitchcock, Yonkers, N. Y., "Watching the Goldfish."

Class F. — Novice

(Brownie Pictures)

First prize, No. 5 Cartridge Kodak: Mrs. Ada C. Morgan, Denver, Col., "A Dusty Highway."

Second prize, No. 4 Cartridge Kodak: Miss G. M. Cooper, Preston, England, "Woodland Sunshine."

Third prize, No. 3A F. P. Kodak: M. J. Walker, Monroe City, Mo., "Taking Comfort."

Fourth prize, No. 3 F. P. Kodak: Jeanette Hedges Todd, Tarrytown, N. Y., "Seaside Reveries."

Fifth prize, No. 2 F. P. Kodak: Miss Dorothea Seton, Edinburgh, Scotland, "Feeding Time."

No. 1 F. P. Kodak and Honorable Mention: Frank N. Henry, Philadelphia, Pa., "Through Ice and Mist"; Mrs. M. Bayuk, Philadelphia, Pa., "A Shady Stream"; Miss Jessie Willard, Oakland, Cal., "Mountain Nymph"; Miss S. Shipley, The Mount, Lincoln, England, "A Modern Juliet."

No. 0 F. P. Kodak and Honorable Mention: Oliver Goldsmith, Great Bookham, Surrey, England, "On Bookham Common"; Alfred W. May, Doyle Rd., Upper London, S. W., England, "Poor Polly"; Mrs. W. H. Gardner, Buckport, Me., "A Maine Wood's Road"; Herman G. Couthbert, Philadelphia, Pa., "Much Study is a Weariness of the Flesh"; Pierre Lejards, Maintenon, Paris, France, "Le Moulin de Valcanville."

No. 2 Flexo and Honorable Mention: Edward Teas, Deal Island, Md., "Grazing"; Mrs. Kathleen Appleyard, Kensington, England, "Les Blanchisseuses des Ardennes"; Constance Parsons, Harlesden, London, England, "The Little Model"; W. C. Huff, Belleville, Ont., "Swans"; A. B. Pascoe, Surrey, England, "Waiting for Daddy."

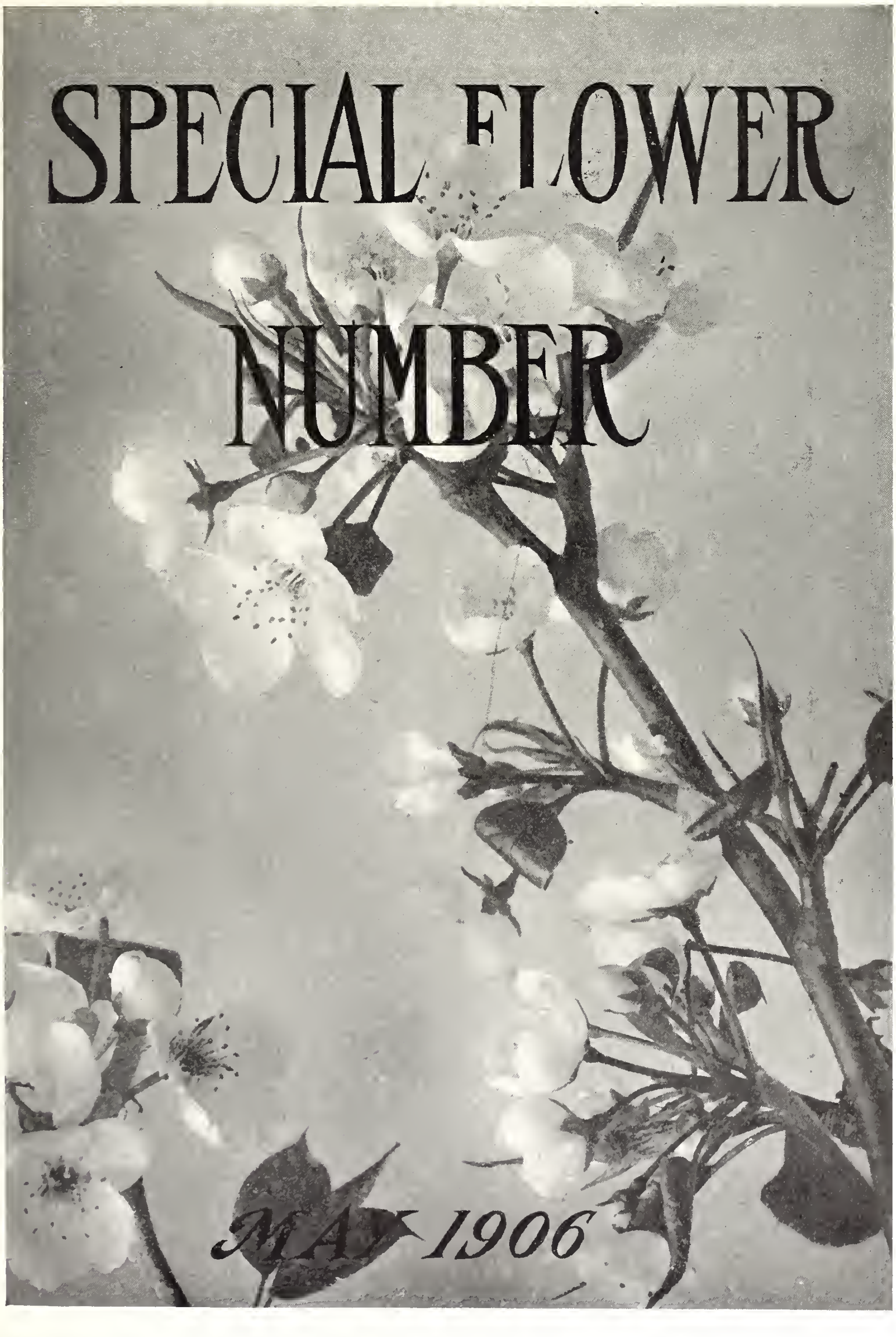
Special Velox Class

(Best Prints on Velox Paper)

First prize, $100 Gold: E. Steichen, New York City.

Second prize, $60 Gold: John Dolman, No. 1328 Chestnut St., Philadelphia, Pa., "Pastoral."

Third prize, $40 Gold: Nellie Coutant, Crawfordsville, Ind., "Toward the Setting of the Sun."



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Contributions relating to photography in any and all of its branches will receive our careful consideration. While not accepting responsibility for unsolicited contributions, we will endeavor to return them if not available, provided return postage is enclosed.

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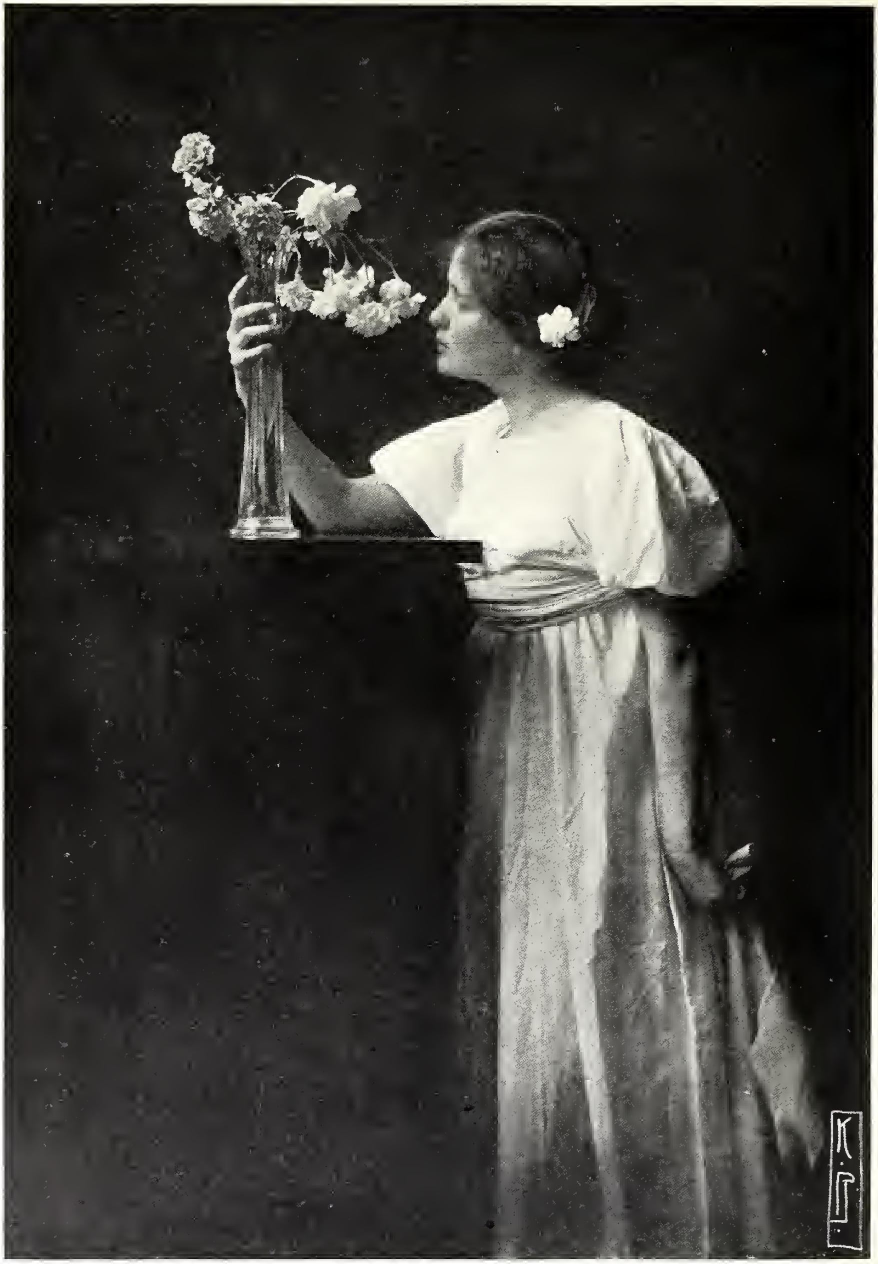


"RARE WITH BLOSSOMS AND PERFUME SWEET"
KATHERINE BINGHAM

Photo Era

PHOTO - ERA
The American Journal of Photography

VOL. XVI MAY, 1906 No. 5

GEORGE G. McLEAN ROSES

THE CAMERA AMONGST THE WILD FLOWERS

JOHN BOYD

NATURE is a great teacher. She has a special line of study for you and another for me, even though our inclinations run in different directions; and just to show how broad her lessons can be she often brings both of us together that we may learn our catechism from some humble subject whose form is beautiful and beauty above criticism.

With this idea she plants the wild flowers everywhere. The botanist comes along, plucks, dissects, classifies and scatters his knowledge to the masses. The skilled agriculturist learns from the botanist, and is guided by what he says, but to the camerist is given the power to portray these plants and flowers, so that all who see their images may know them without further questioning.

It is not to these alone that the study of wild flowers is given. The love of the beautiful is inherent in all mankind, for what is more perfect in color, form or odor than some of the commonest of these children of the forest and field.

It is, however, to the camerist that I would speak of the opportunities for enlarging his vision by taking up the wild flowers, if for no other reason than that of extending his knowledge into the beauties of the floral world.

If he starts in the spring when the trailing arbutus shoves its leaves through the dead herbage of last year, he will find new subjects every hour and every day until the first frost warns him that he must be content until the warm sun of another year renews the glories that make the earth so beautiful.

A photograph of a wild flower amidst its natural surroundings is valuable for many reasons. It tells the onlooker better than a description the kind of locality it inhabits; its relative size when compared with other plants of a like preference; whether it grows in masses or singly — in fact, it is as near to an actual visit as one can hope to make it.

Many of the published pictures we see to-day fail to do justice to the plants in their wild state, and a few hints on what may be considered their weaknesses may help others to overcome these shortcomings; for there is no reason why we cannot do better with the improved facilities that are at our disposal.

The camera that is best adapted for this work should be of long enough draw of bellows to enable life-sized images to be made. It ought, if possible, to be of the front and back focusing type, so that when placed before an object the front can be extended to enlarge the object's image, while the back is moved to obtain the correct focus.

If the worker has not one of these, the next best is where the bellows is moved by pulling out the ground glass from the back and where the extension for size of image and focusing is accomplished by the combined aid of the tripod and camera body.

Of course good work can be done with a front focusing instrument, but the labor in getting it correctly adjusted is greater than either of the other styles.

The size of the plate is of considerable importance. I have used everything, from a quarter plate up to 10 x 12, but have finally settled on a 5 x 7 as the most suitable for the average man. The dimensions of the latter have a proportion that is not found in any other size, and the prints will answer nearly every purpose without enlargement. Other sizes can be used, but in my opinion each has something against it. If we make large negatives, the expense comes high, to say nothing of the heavy weight and the increased difficulty in making sharp images in the open, even if there is but the slightest breath of wind blowing. The smaller sizes will give better results in a breeze than the larger ones, but they must be enlarged to stand inspection. It is true the expense is decreased as we reduce the size of the image, but with the healthy competition and liberal discounts that prevail to-day in dry plates, we can hardly find any objection to using a 5 x 7.

The lens ought to be as good as the worker can afford. The more he pays, the better can he expect his results to be. Lens makers keep vying with each other as to how much speed they can put into their products. Speed is largely a matter of working aperture, and the greater the perfection attained in this direction, the more you will gain by it.

Anastigmats working at f. 6, or not less than f. 8, will give the best satisfaction, and the camerist who can snap his subject at one twenty-fifth of a second with f. 6, will easily beat his brother whose lens will only permit him to speed up to one fourth of a second under like conditions.

Next comes the tripod, and really, in its commercial form, it is the crudest of all our instruments. The flower photographer needs a tripod that will bring his camera almost to the ground for one subject; his next may require that of the regulation height; and again he will have occasion to set it at any or all of the intermediate heights. There is no tripod that I know of that will accomplish all that we demand of it, so I will describe a makeshift that has served me in places where the regular article, if set up, would be forever performing "splits," and causing more or less profanity.

JOHN BOYD WOOD VIOLETS

It is simply a piece of board, 30 inches in length, 8 inches wide, and $\frac{5}{8}$ inch in thickness. Down the center are bored six holes, 4 inches apart. These are made just large enough to allow the tripod screw to move freely, and through them the camera is attached to the board. This will permit low plants to be photographed when laid flat on the ground; it can be tilted up to any elevation with sticks or stones; will lie across fence posts, branches of trees, logs, snake-fences and in many other places where the ordinary tripod would be useless.

JOHN BOYD MANDRAKE OR MAY APPLE

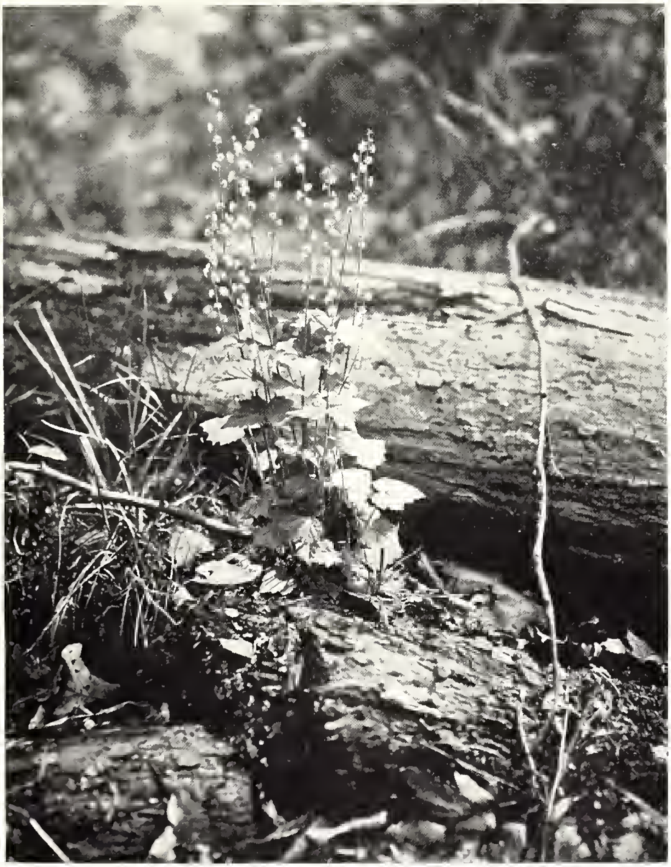
A further convenience is a tripod clamp, which will come in handy, if not indispensable, when one wishes to elevate or depress his camera to take in trailing plants on either ground or tree trunks. When getting one, see that it will hold your camera rigid, when it is drawn out to its full length, the lens and shutter being also in place. If it stands this test, it will do good service; if not, discard it as useless. I give this word of warning, for many of these devices in the market are a delusion and a snare.

Orthochromatic plates, with a ray filter to suit the emulsion, are the theoretically correct things for this class of photography, but in actual practice one finds very little opportunity for making exposures with the ray filter. The faintest whisper of a breeze means that you have got to speed up your shutter in order to obtain a sharp outline, and on such occasions it is safer to get the best results the plate is able to give, without risking too much for the increased color values the filter imparts. The rule should be, to work the filter when you can, and when it is proper to do so, but not to make yourself too subservient to it.

With this preliminary chat about the outfit, let us take a walk into the woods, and see how we can put some of our ideas into practice.

It is the latter part of May. Many of the early flowers are scenting the air with their perfume, and everywhere is material in plenty for our cameras.

Here and there are clumps of the wood violet (*viola obliqua*), a plant without scent, but whose bluish purple blossoms are admired more than any hothouse exotic ever was. It reaches its greatest perfection in a moist, cool, shady place, and as we go along we study the photographic possibilities of each bunch



JOHN BOYD FOAM FLOWERS

we come to. Finally we reach one which has some thirty odd blossoms branching out from one root. We fit our camera to the board already described; clear away the growth in the foreground; remove some of that behind the clump, endeavoring to throw all the other extraneous objects out of focus. With the lens aperture at f. 8, we give one fifth of a second, and believe we have accomplished all we sought. Have we? No; far from it; for on development we find that the background is too predominant. Being thrown out of focus, it appeared to us on the focusing screen of a uniform green shade, with no high lights or shadows to mar the plainness back of the principal object, but we were deceived, as others have been before and since. It is this that destroys the beauty of the flowers; but as it imparts an important lesson, and one that must be well learned, we here give the illustration a place.

A few steps farther we come to a bunch of foam flowers, or miterwort (*mittella diphylla*), standing up erect alongside a rotten prostrate tree trunk. It is in an ideal place for picturing, but the breeze is swaying and dangling its "Bishop's Caps" in a manner not assuring to the camerist. We want its image for our collection, but how are we to still the wind that menaces our laudable intentions?

Setting up the camera on the tripod, we depress it with the aid of the clamp, set the shutter at one tenth of a second with the diaphragm at f. 8., meanwhile formulating a plan to check the motion that is swaying the flowers scattered along the slender raceme.

Procuring two sticks about 4 ft. in length, we insert them firmly into the ground some 3 ft. apart. We then take our focusing cloth, and with the aid of a couple of pins, soon have a screen that answers admirably. It was built to the left of the plants, just outside the range of the lens, but as close to it as possible.

Ahead of us is a partial clearing where the ax of the owner has been at work, and prominently scattered about are large patches of mandrake or May apple (*podophyllum peltatum*), a plant which some one has said is only safe for "pigs and billygoats to tackle."

Unheeding this dire warning, and believing it was made before the flower photographer started in to gather everything in sight, we resolve to have a picture of it if possible. As we walk around the clumps of "green umbrellas," viewing them first with the light at our back, we see nothing but a uniform mass of dark green; no relief or anything that would give other than a flat image. Looking at them with the light from either side it still appears unsatisfactory, but when we bring the camera so that the light comes from straight in front, we find the nearest approach to what we are seeking.

Giving two seconds exposure with f. 8 produced the result you see. The high lights are strong; the distant background is entirely obliterated; but even with these defects the plants stand out with an individuality all their own. No identification tag is necessary to tell the man, boy, woman, or girl who knows the woods what they see before them, and is this not what all photographers are seeking for?

Crossing the open space, dodging the mandrake groves by the score, we reach the creek. It has not reached the dignity of a name, but no matter; in its bed grows the blue iris or fleur-de-lis (*iris versicolor*), which, Ruskin says, "has a sword for its leaf and a lily for its heart."

Taking off our shoes, and wading through the rushes and water cress, we plant our camera before a beautiful clump, whose leaves and flowers are nodding and swaying in the breeze that comes blowing across the open fields.

JAMES THOMPSON
DAISIES

KATHERINE BINGHAM ANEMONES

The sun is shining brightly in the western sky, and the sloping rays tell us that a satisfactory picture of the whole group will be difficult; but we are here to attempt it, so we'll do our best, and if we fail, we hope at any rate to profit to some extent by the knowledge so gained.

The focusing is arranged with the lens wide open, which will give us a sharp image of the "Flags," and diffuse the background of rushes and bank into a subordinate plane. We give one tenth of a second, but the result is not as pleasing as one would wish, for reasons already mentioned. It is a difficult subject, and being usually in a difficult position, it will at all times tax the camerist to the utmost to do it justice.

Wishing to get a larger image of the blossoms, and seeing no chance to get it in the open, we pluck a few of the choicest flowers and take them home. As we examine them closely, we can readily understand why they should get the name Iris, the meaning of which is a deified rainbow; for the superb coloring, the ethereal texture, and the evanescent beauty are so pronounced in every blossom, that we cannot but admire the ancients who bestowed on the plant its best-known title.

Placing the flowers in front of a background near the open window so that they would get the light from the side, front, and top, we expose for two minutes with f. 16. This time appeared necessary in order that we might get detail

KATHERINE BINGHAM A BOWL OF ROSES

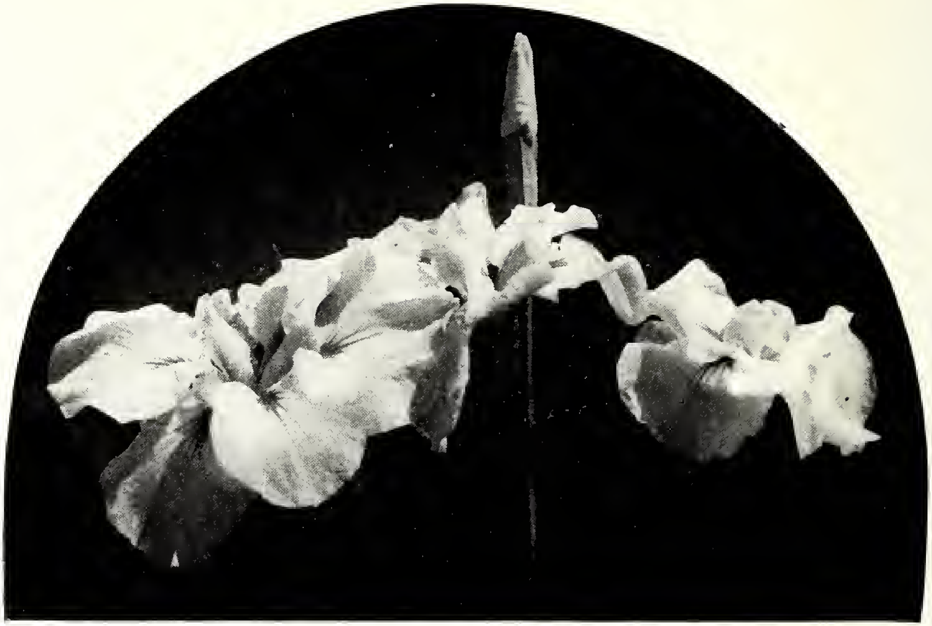
in the less actinic parts of the plant, not forgetting that we had to deal also with the most sensitive colors in the spectrum. The blossoms, as all know, are of violet-blue, variegated with white, green and yellow, and purple veined. This in itself is almost the range of the spectrum, and it is difficult to get true color renderings in all of them with one exposure.

We have now brought this ramble to a close. The subjects selected are common ones, but in dealing with them from the photographic standpoint, we believe in each of them new conditions are to be found, each calling for some special treatment, and in each an opportunity for improvement.

The illustrations submitted are not put forward as standards to work to, but printed solely that their defects may be the better pointed out.

The worker cannot hope to attain perfection by a mere knowledge of how a certain thing should be done; he must get at it and do it, and so show others that he has earned the title of master of his art.

With this injunction, you and I must be up and doing, and there is no wider and better field, especially from the educational standpoint, than in photographing the wild flowers.



F. A. WAUGH JAPANESE IRIS

THE PRINCIPLES OF PHOTOGRAPHY BRIEFLY STATED

PHIL M. RILEY

Fifteenth Paper — Portraiture at Home

1. *False Notions.* — Home portraiture, although frequently attempted by a large majority of amateur workers, does not seem to give the same measure of success as landscape and other branches of photography. In fact, one sees but few successful and convincing home portraits; the reason given for poor success usually being the lack of skylights, head rests, screens, painted backgrounds and other paraphernalia of the professional. These accessories, however, are entirely unrequired, and doing away with the artificiality of such alien surroundings is a distinct advantage in this particular phase of photographic effort. The best way to secure harmonious surroundings is to portray people in their own homes, where they will look and feel natural and free from self-consciousness, enabling the artist to secure a characteristic portrait which could never be had in a studio. This is a field from which the professional will be excluded until he can command much higher prices than are common at present, but to the amateur it offers a wealth of possibilities. No attempt will be made here to describe methods for securing "studio effects" at a window, the object of the paper being to point out the possibilities of photographing people as they appear in everyday life.

2. *The Camera.* — Practically all of the usual studio appurtenances of the professional, such as skylights, model stands, painted backgrounds, screens and even the regulation studio camera with its adjustable stand may be dispensed with. Any ordinary view camera and folding tripod will answer the requirements: 5 x 7 is suitable for head and shoulder pictures, but for serious work, including full length portraits and groups, 6½ x 8½ will be found the best practical size.

3. *The Lens.* — The lens in portraiture is worthy of far more attention than the amateur usually gives it. Buying an expensive instrument does not solve the problem; it must be of the right sort, and if it is, it will render much better service than a more expensive lens which is not adapted to the work. The small lenses which are usually fitted to hand cameras are not at all suited for portraiture, as they are of too short focal length, not sufficiently rapid and they bring everything in the picture to a most unpleasant hard and sharp focus. This extreme power of definition is a thing to be avoided in portraiture, although a portrait lens should at the same time be free from distortion. What is wanted is a softness which will give the image a certain amount of diffusion or atmosphere, while being at the same time in good focus. As this quality is always lost by stopping down, the lens should possess sufficient flatness of field to cover the plate at its largest working aperture. This means speed, which is essential in home portraiture. To avoid distortion, the sitter for a bust portrait must not be nearer than six feet from the camera, and if more of the body is to be shown, the distance must be considerably increased. Therefore, a lens of ten or twelve inches equivalent focus will be necessary to give an image sufficiently large; twelve inches focal length is preferable. With such a lens we lose the depth of focus common to short focus lenses — a quality not desirable in portraiture — at the same time gaining softness, roundness and atmosphere, which gives modeling in the features of the sitter. The speed of the lens is important, and should not be less than f. 5 or f. 6, which will enable one to work in an ordinary house with exposures ranging from one to three seconds.

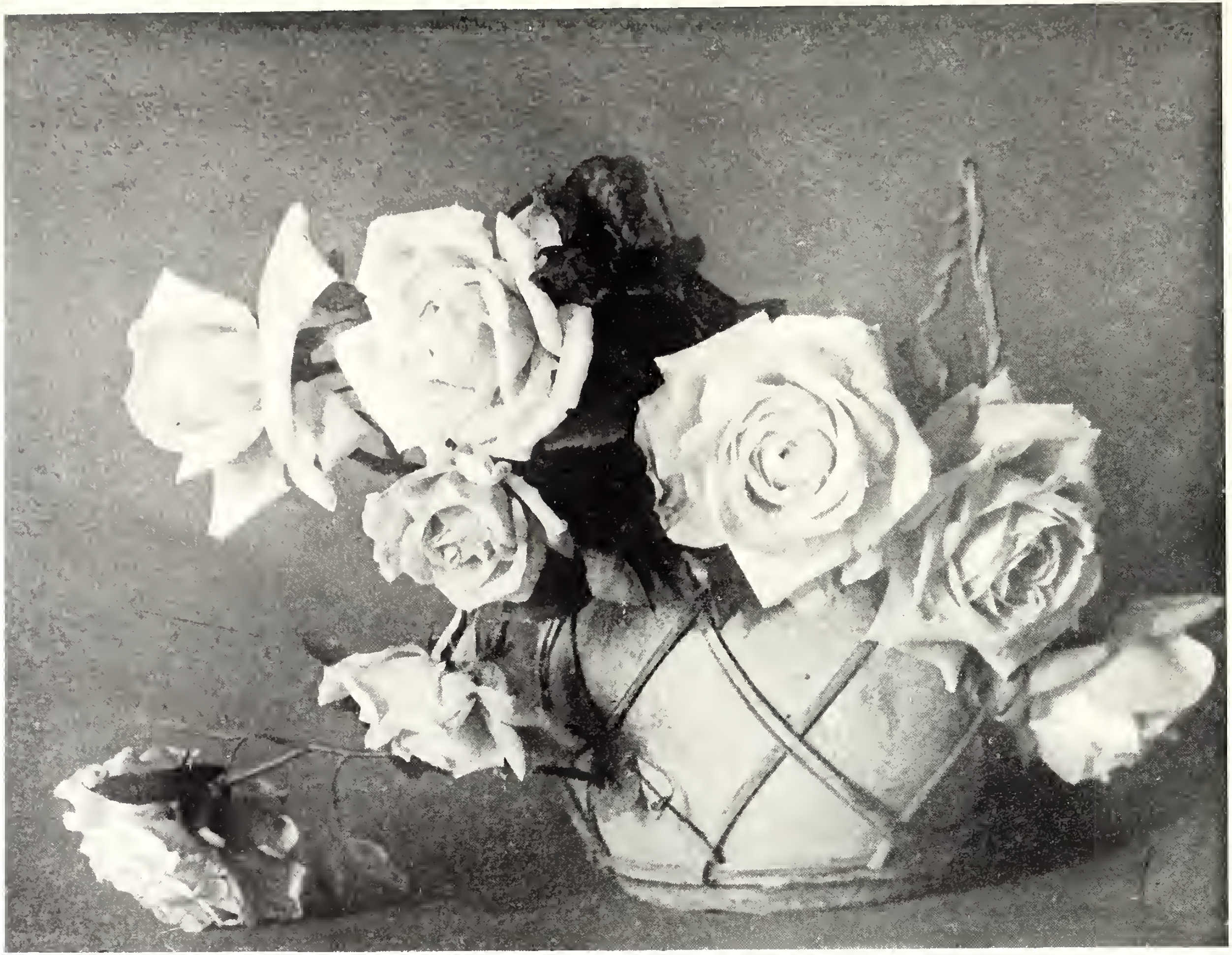
4. *The Background and Accessories.* — Portraiture at home, because of the different conditions encountered with each new composition, is much more difficult than studio work, but for the same reason it is far more interesting. The photographer is brought face to face with new problems in making each picture because of unfamiliarity with the possibilities of the rooms he works in, and his task of doing the best he can with the material at hand is aided only by choice elimination and arrangement, in the exercise of which he will be called upon to use his utmost artistic skill. The first consideration which will tax his ingenuity and artistic taste is the background, the choice of which will depend to a great extent upon the possibilities for lighting the subject. Having selected what seems to be a desirable place for making a picture, the worker will do well to try posing a figure there to determine if the light is satisfactory. If it is not, and cannot be made so by raising or lowering the curtains, placing the subject in different positions or moving the camera, another place must be

chosen, and if a pleasing lighting does not furnish a good background, the subject should, if possible, be placed far enough forward so that the background may be thrown out of focus. If this cannot be accomplished, the objectionable features must be removed entirely by interposing a screen covered with drapery of a suitable shade. This expedient, however, only detracts from the naturalness of the scene and should be avoided whenever possible.

It is unfortunate that so many workers who delight in portraiture at home do not make use of the characteristic accessories they have at hand, but instead, try by various means to imitate the professional. It is true that many of our homes are overcrowded and therefore unattractive, but by careful discrimination, elimination and regard for the lines and spacing of each composition, the pictures need not be inartistic. It is a mistake to remove all details from the background, but the details should be of a simple nature, carefully arranged, and above all typical of the subject. The background, accessories and general surroundings must be carefully considered with reference to the character of the subject. Very different treatment should be given in the case of a grandmother with her knitting, or a debutante in evening gown, a child at play, or a man reading the morning paper. The influence of surroundings is very apparent, and each person should be portrayed in the atmosphere in which he or she will feel and appear most congenial.

5. *Dress.* — Following along these same lines the question of dress is important. It is too often the case that the subject insists upon being "dressed up" in party best before allowing a picture to be made, and the result is usually stiff, constrained, and unnatural. Mothers almost always insist that their children be scrubbed and don clean starched little suits before "having their pictures taken." How much more care-free and natural they would seem at play in their everyday clothes! Simplicity, naturalness and everyday facts rob the sitter of self-consciousness and are productive of excellent results, but fine clothes or special costumes always raise an element of uncertainty as to the outcome.

6. *The Pose.* — The pose is in some cases the most difficult part of portraiture, and in others is the easiest to arrange for. It would seem almost impossible for some sitters to assume an awkward pose, and with others exactly the opposite is true. In such cases it will be well to note any unconscious and natural attitude assumed by the subject, and try to secure it without arousing his self-consciousness. This method is the best one to pursue as a rule, and produces far better results on the average than any attempt on the part of the photographer to pose his subjects in positions which might fit his preconceived plans. In fact it is practically impossible to determine any exact composition beforehand, for no matter how interesting or artistic the pose may be, the result will be stiff and unnatural unless the subject happens to fall into the attitude naturally, which is a rare occurrence. The photographer should endeavor to suggest only a few minor changes of pose, being on the alert meantime to make the most of what chance may give him. Here the home portraitist finds his



WM. S. RICE

LA FRANCE ROSES

FEDORA E. D. BROWN MILKWEED BLOSSOMS

greatest advantage in the possibility of photographing people among their customary surroundings and employed in their usual occupations, for the details of everyday life lend a charm to the picture and enhance its worth in the eyes of the sitter. Usually the easiest way to secure an unstudied pose and likeness is to encourage some customary occupation while arranging the camera, and in the meantime the subject is almost certain to assume some characteristic attitude, which, at a word from the operator, may be held long enough for an exposure to be made.

The expediency of introducing some occupation as just suggested is sometimes questionable, it is true, but this depends to quite an extent upon the sitter. Some people possess the rare quality of repose and need no occupation to remove self-consciousness and divert their attention from themselves. Such persons will usually lend themselves to the promotion of the best possible results, and the operator may spend considerable time trying effects and making different exposures, but if the sitter is at all self-conscious or nervous, the work should be done as quickly as possible and some occupation to distract the attention from the presence of the camera will usually be of assistance. An occupation, however, brings a second interest into the composition which may detract from the personality of the sitter. But it is frequently the case that the best and most characteristic aspect of a sitter's nature is brought to light under the influence of a certain occupation, and then it becomes legitimate as well as desirable to pursue this course. For instance, many an old lady is never so happy as when

H. WILSON SAUNDERS MAGNOLIAS

knitting — by all means let her knit; or a man who has made some particular occupation his life work — a portrait apart from this work would be sadly incomplete. As a last suggestion, no attempt should be made to restrict all possible freedom of movement up to the moment of exposure. The sitter may turn the head, talk, write or sew without interfering with composing the picture or focusing, and by this freedom rigidity of pose and expression may be entirely obviated.

7. *Lighting.* — Although it is not usually found very difficult in actual work, the problem of lighting in home portraiture is perhaps the most difficult point to treat, because no statements can be made which are applicable to all cases. Experience is the best and only good teacher, and while the worker can base his manipulations upon what experience has taught him, yet at the same time it is impossible to plan any system of lighting beforehand — the successful portraitist must work on the spur of the moment; each case must be

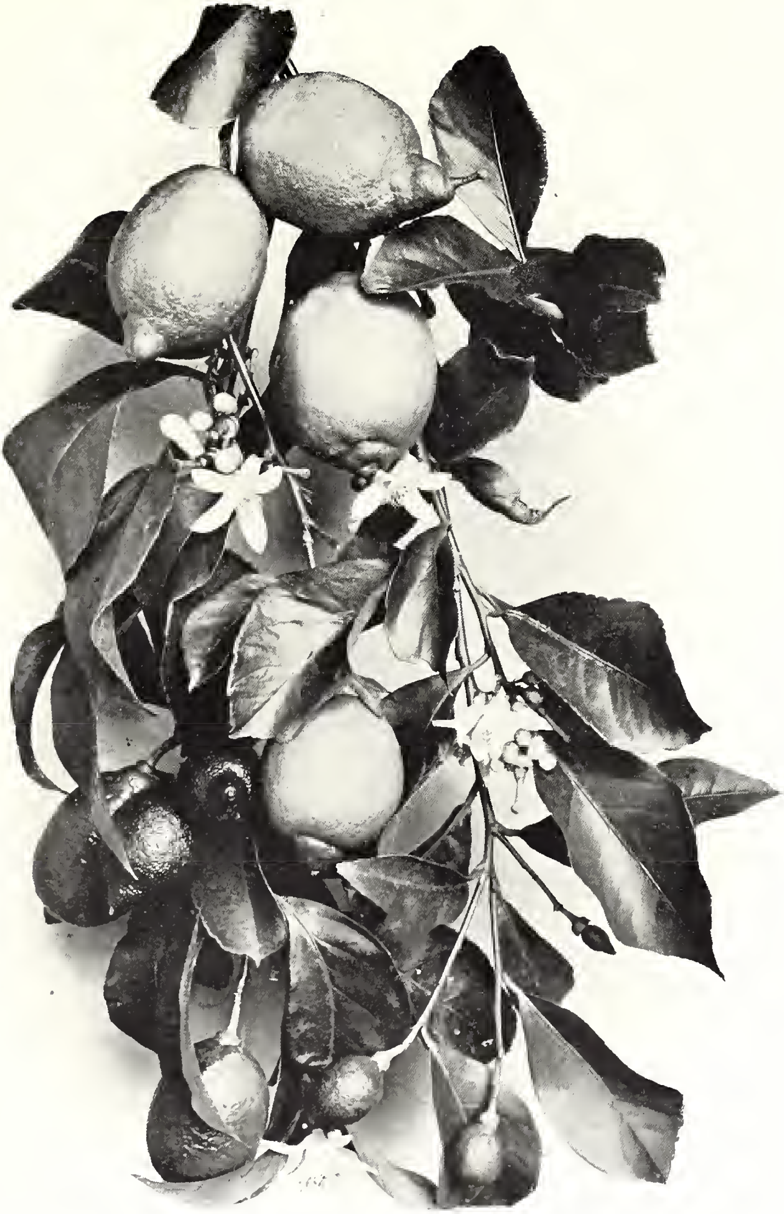
treated entirely with regard to its particular needs, and it is only by posing the subject in the place selected that the requirements of light can be determined. Here the ingenuity of the worker must assert itself in producing the desired effect with the means at hand, such as the proper arrangement of window curtains and draperies, screening the light if necessary to reduce contrasts, blocking out portions of the window, arranging reflectors to light the shadow side of the face and the like.

The lighting is sure to be either harsh and glaring or soft and diffused. A soft, diffused light is usually preferable, and may be secured by screening the light through cheese cloth placed over the window. This method should be avoided, however, unless the light would otherwise be harsh. The quality of the light also varies with the surroundings, and the nearer the subject is to the source of light the harsher will be the contrasts; therefore strong light should rarely be allowed to fall directly upon the sitter.

For convenience the light may be divided into primary and secondary lights. The light which produces somewhat distinct shadows upon the features, giving them projection and character, may be regarded as the primary light, while the secondary lights, by blending the shadows into mellow, transparent shades, give modeling and gradation. Neither form should predominate, and by the proper blending of these lights the art of portrait lighting is accomplished. The strongest primary light which may be used is that which comes directly from the sky in a direction removed from the sun. Such a light will be quite satisfactory if secondary lights can be secured which will be strong enough to preserve proper balance. These lights may sometimes be had from windows in different walls of the room, but they must more often be secured by means of reflectors made of white cloth stretched over light frames of wood, or improvised by holding up a sheet or hanging it over some piece of furniture. If balance cannot be secured between the primary and secondary lights because of the intensity of the primary light, a screen must be interposed between the light and the subject, but only when absolutely necessary. Usually it is a problem to secure sufficient illumination and paucity of light is always apparent in the finished photograph. Try posing the subject farther from the source of light, if this is possible. In the matter of contrasts, which always tend to increase in the negative as a result of absorption of the lens and chemical inertia of the plate, it will be found advisable to make exposures when there is a little less contrast than is pleasing to the eye.

As a last word, it may be stated that many customary conventions of lighting may be disregarded to advantage. In this connection may be mentioned the fact that it is a mistake always to avoid making portraits in a sunny room. In fact, there are times when charming sunlight effects may be made by photographing directly through the sun's rays, which may be done with perfect safety.

8. *Plates.* — Ordinary plates of the fastest speed should be used for home portrait work. Orthochromatic plates, although theoretically good when used with proper screens, increase the exposure so materially as to become the cause



GEORGE G. McLEAN
LEMON STUDY

of troubles greater than they cure. Plates listed in Class 1 of the exposure tables given in the third paper of this series will ordinarily be found satisfactory.

9. *Exposure.* — Outdoor exposures may be mathematically calculated with some degree of accuracy, but for indoor portraiture so many varying factors must be taken into consideration that exposures must be determined by experience or experiment. A little familiarity with the work and the locality makes this matter quite simple. The only advice which can be given to the novice is to study the lights and shades of his subject, and then make an exposure as nearly correct as possible. If the trial exposure be one second, it would be a wise experiment to expose four plates, giving them one-half, one, two and four seconds respectively, and mark each plate with the exposure given. Develop these plates the same length of time and when finished print from them. A few trials of this nature will furnish valuable data with which to get on the inside track to success. Always remember that overexposure is a lesser evil than underexposure, although less common, and the worker should, therefore, strive for sufficient timing to secure the required detail in the shadows without fogging the plate or losing a certain amount of brilliancy. Although experience is the best teacher, the exposure meter will often prove helpful, and too much cannot be said in praise of the Steadman system of Solio Timing endorsed by the Eastman Kodak Company.

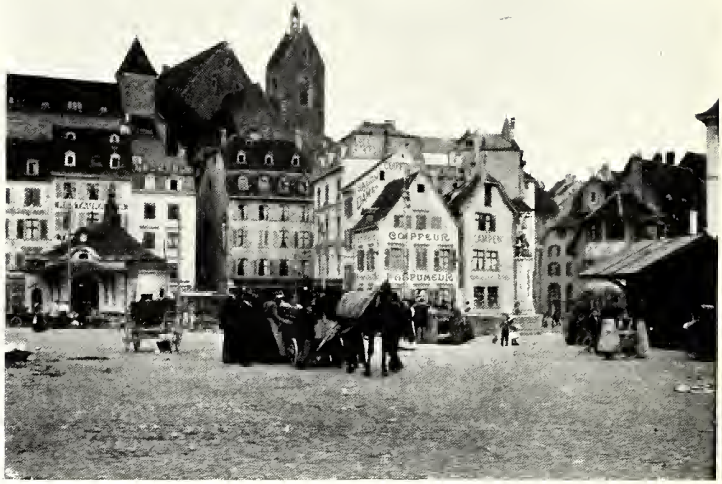
10. *Development.* — The development of this class of exposures is of the greatest importance and too much care cannot be taken. Most home portraits are a trifle underexposed and the lighting is contrasty, so that although all of the developing agents are good when properly used, preference should be given to the soft working developers, such as amidol, eikonogen, metol and rodinal. Weak pyro may be classed as a soft working developer, and is advocated by most professionals. The formula given in the fourth paper of this series may be modified to give excellent results. Use ½ oz. of Stock Solution No. 1, 1 oz. each of No. 2 and No. 3, and add 14 oz. of water. It is important that a portrait negative should not be overdeveloped, otherwise it becomes hard and loses gradation. The plate should be watched carefully as it develops and frequently examined on the glass side for the first appearance of the image as it shows through. When the highest light of the picture has been brought down to the glass, it is time to fix. Negatives so developed may appear thin, but printing will prove that they are superior to dense ones, as they print quickly, possess adequate brilliancy with pleasing softness, and a wide range of gradation. It will usually be best to keep the temperature of the developer at about 65 degrees, although a tepid developer, not warm enough to melt the film, tends to produce softer results from slightly underexposed and contrasty subjects.

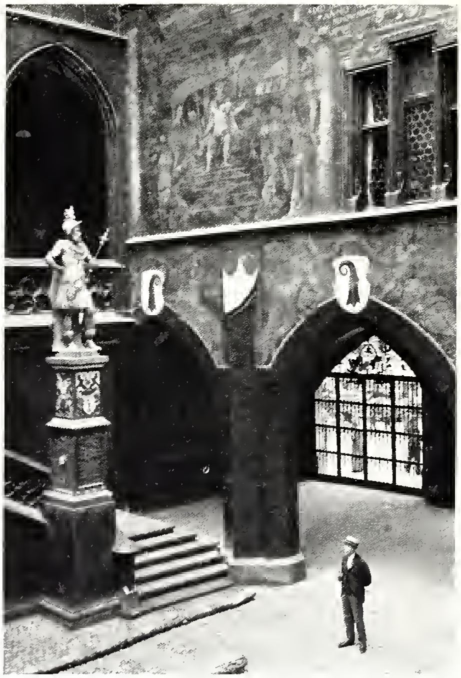
11. *Retouching.* — In the matter of retouching the amateur should proceed along radically different lines from those usually pursued by the professional. As ordinarily practiced, this process destroys all character in the face and distinction in the print, and the amateur should be warned not to use it except for remedying faults which cannot be avoided by careful posing and lighting. By

GEORGE ALEXANDER A SPRAY OF ROSES

keeping the negatives a trifle flat, thin and soft, pictures of old persons, men and children will seldom require more than a little spotting. "Modeling" the features should never be attempted. In fact the removal of freckles or other blemishes of the complexion and the softening of deep lines which have become unduly prominent as a result of poor lighting or overdevelopment, are the only phases of retouching that are ever advisable. A little practice supplemented by reading some good manual will enable one to pick up simple retouching of this sort quite easily.

12. *Printing.* — Printing from portrait negatives is perhaps the most interesting part of the work, and the variations to be had in the choice of papers and the manipulation of them is almost infinite. By choosing the right medium it is possible to retrieve almost any error which appears in the negative, and it is, therefore, only after several trials that the worker can feel confident that he has brought out the best qualities in his negative. The platinotype is an excellent medium which can be had in black and also sepia tones which are now so popular. For mellow richness the Angelo and Willis and Clements papers cannot be surpassed. Another paper which is justly popular among professionals and amateurs alike, because of both quality and simplicity combined, is the Aristo. There are several brands, and the worker will do well to give them a trial. Carbon is excellent for large portraits, and no serious worker can afford to feel self-satisfied until he has mastered this wonderful process.





WILFRED A. FRENCH
BARFÜSSER PLATZ, BASEL
COURTYARD OF RATHHAUS, BASEL

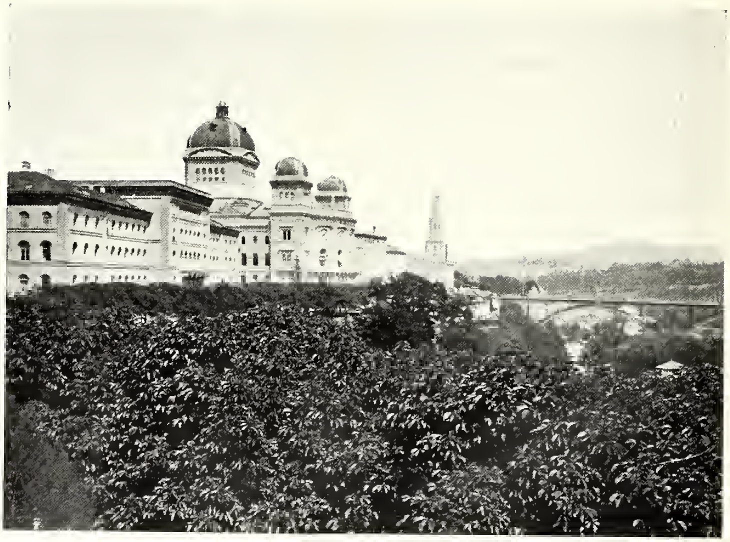
A PHOTO ERA TOUR IN EUROPE

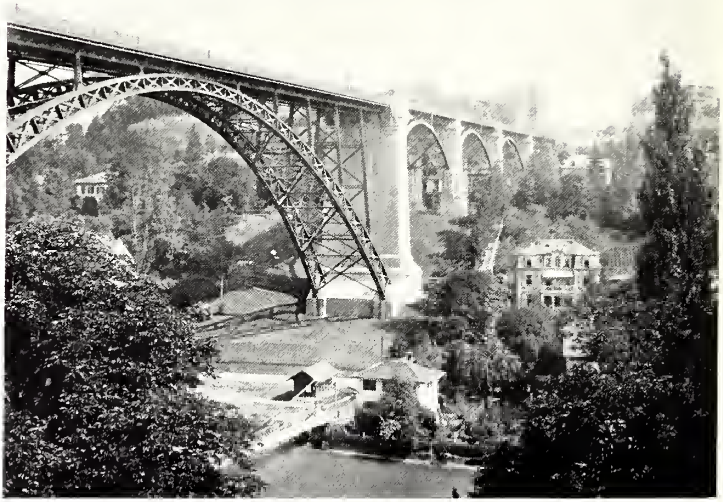
(Continued)

SWITZERLAND — THE BERNESE OBERLAND

WILFRED A. FRENCH, PH. D.

WE were, at last, on the threshold of Switzerland, the land of mountains and lakes, of valleys and glaciers, of gorges and streams. The land where men were cast in heroic mould. Every inch of her soil is historic, consecrated ground, stained, as it is, with the blood of patriots, who gave up their lives in the holy cause of liberty. The land, too, known to us from the dramatic pen-pictures of Schiller, Byron and Hugo. A section of the civilized world where graft is unknown; where a person may walk anywhere, in the city or among the mountains, without being molested; where law, order and decency are supreme, and life and property are secure. That was the country we were so eager to see. What wonder then that we lingered but a day in Basel, the gateway, though it be, of Helvetia. From the windows of our hotel in Klein-Basel — across the Rhine — we obtained excellent photographic views of the city proper, her historic gothic cathedral rising high on the opposite shore of the swiftly-coursing Rhine; the Old Bridge, in process of reconstruction, and the quaintly-venerable Leonard Church. The ancient *Rathhaus*, recently restored, is an architectural curiosity, characteristically Swiss without and within, and amply repaid us to inspect. In the evening we paid a visit to the atelier of Ruf, the well-known Swiss photographer, charmingly situated on the Spalenring. The next day we were in Berne, the capital of the Swiss Federation, situated high on the left bank of the Aare and offering irresistible attractions. Totally unlike Basel, Berne possesses striking mediæval characteristics, its numerous quaintly-sculptured fountains, its arcades — suggestive of the Rows of Chester — its fifteenth-century *Rathhaus*, its clock-towers and gateways and, as an example of first-class constructive skill, the superb new Bridge — *Kornhaus-brücke* — across the Aare. Between seeing to enjoy and seeing to photograph, we had a busy day. At sunset, as we were gathered on the balcony of our hotel, enjoying the far-reaching view toward the south, the clouds on the horizon gradually began to lift and part, disclosing a magnificent panorama — a broad vista of snowy crests touched with a roseate hue. The mountains of the Bernese Oberland! No one, except an ardent lover of nature, can appreciate the feelings of those who for years had longed to behold the glories of Swiss Alpine scenery. That happy time was not to be long delayed. The morning of the following day found us speeding in the direction of Interlaken. From the deck of the swift, little steamer, carrying us from Thun to Interlaken, we gazed with rapture upon a scene of matchless beauty. Salzburg, the Rhine and the Black Forest, once cherished memories, now passed into oblivion. Close before us, and to the south, rose the cone-summited Stockhorn, followed by the pyramidally-shaped Niesen, each over seven thousand feet high. To the left, and beyond, the glittering snow-fields of the Blümlisalp and, still farther on, our friends of last evening,





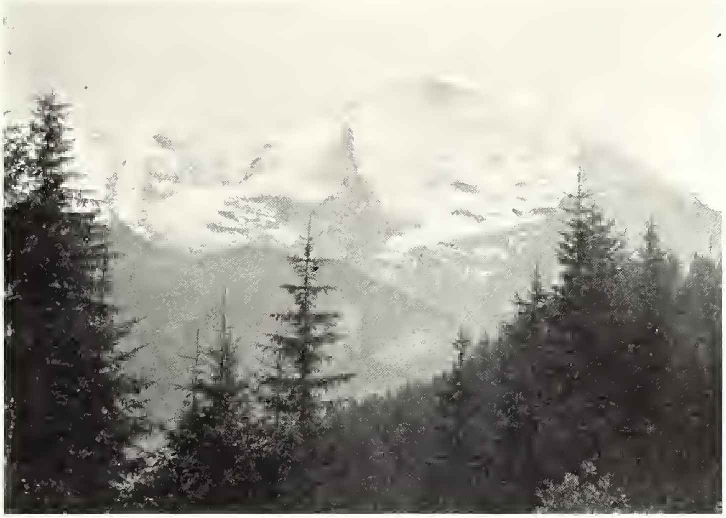
WILFRED A. FRENCH
FEDERAL PALACE, BERNE
KORNHAUS BRIDGE, BERNE

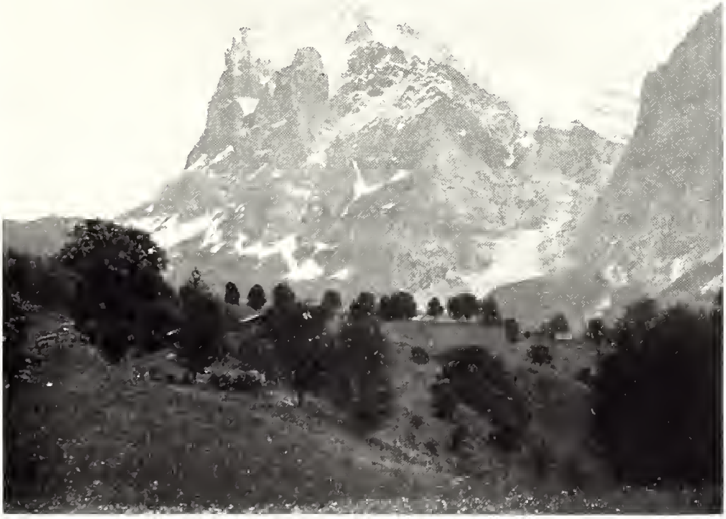
WILFRED A. FRENCH
CLOCK TOWER AND FOUNTAIN, BERNE

the Jungfrau Range, with the mighty Schreckhorn, Wetterhorn and Finsteraarhorn, lifting their snow-capped summits high above their fellows. Nearly every passenger was provided with a camera, but, absorbed, as we all were, in the contemplation of the glorious spectacle before us, few photographs were taken. Spiez, one of the few points at which the steamer halted, is charmingly situated on the south shore of the lake and, with its ancient picturesque château, drew my photographic fire. I recalled the delightful excursions I made from here in 1902, first to the summit of the Niesen and, a few days later, to the baths of Leuk (Loëche-les-Bains) via Kandersteg and the Gemmi Pass.

Snugly and favorably settled in the Hotel du Nord, at Interlaken, we felt a peculiar sense of satisfaction. What we had longed for, the dream of our lives, was now within our grasp. All that was needed to complete our happiness, was continued fair weather. I remembered my previous sojourn in Interlaken, which was marred by a steady down-pour lasting five days. Fortunately the weather continued perfect and we were correspondingly joyful. Our first move was a promenade along the Höheweg, flanked by a long and splendid array of hotels and commanding a famous view of the Jungfrau. The avenue was thronged with sightseers, visitors from every land, gazing steadily and silently upon the Virgin Mountain, resplendent in her snowy robe of spotless white — a vision of wellnigh supernatural beauty. It was a scene, the sight of which will linger long in the memory. Our excursion to the lovely Valley of Lauterbrunnen, with its well-known natural charms, culminated in a visit to Mürren, a small plateau situated high up on the edge of the western cliff of the Lauterbrunnen Valley and facing the Schwarze Mönch. We ascended to the Grütsch Alp by the remarkable Grütsch cable railway, making several successful exposures of the Jungfrau en route; then by the American trolley to the village of Mürren, three miles distant, where we obtained a view fit for the gods. The stately Jungfrau and her brilliant retinue of knights, each arrayed in dazzling armor of steel and silver, rose before us in overpowering magnificence. Although separated by the Lauterbrunnen Valley, five thousand feet beneath us, these snowy giants seemed so near, as though they could be touched with the outstretched hand. There they were, to the right of the Jungfrau — herself nearly fourteen thousand feet high — the Gletscherhorn, the Mittaghorn, the Breithorn, the Tschingelgrat, the Gspaltenhorn and the Blümlisalp; and to the left, the Mönch, the Eiger and the Wetterhorn, the huge perpendicular wall of the Schwarze Mönch rising abruptly from the valley and directly in front of us, none of these peaks being less than eleven thousand feet in height. Where on this globe can a scene of such beauty be duplicated? We meandered about this enchanted spot, hardly noticing the Alpine flora, which here flourish in many varieties, attaining a brilliancy and beauty of coloring, indeed remarkable. The peace and quietude of the place are wonderfully impressive — exalting. In the presence of Nature's most majestic architecture, transcending in magnitude and grandeur the greatest achievement of man, the soul expands and wanders afar, beyond. Now we hear, as if in dreamland, the distant music of cow-bells in two and three voiced harmony — the grazing herds on the *Alm* above us. These are moments to which the mind returns with affection in after years. They can never be blotted out, never separated from our memories of this blessed spot. Our powerful binoculars enabled us to study the external character of the snowy colossi, and it was by mere chance that we witnessed the spectacle of an Alpine avalanche. There were several of them, the course of one, as we observed it, being surely several miles long. It seemed to consist of huge masses of ice, which detached themselves from the glaciers in the upper regions of the mountain — the Jungfrau, in this instance — and came rushing down the steep with great and rapidly increasing velocity, then hurling themselves with terrible force over the precipices into the valley. We watched with bated breath, and a few seconds later we faintly heard the distant roar of the impact.

The next important outing was a railway trip from Interlaken to Grindelwald over the Wengernalp and the Kleine Scheidegg. I had made excursions several years previously, before the introduction of railways into the Lauterbrunnen Valley, and was naturally surprised that the Swiss engines consumed bituminous coal, the resulting smoke lingering in the valley and impairing the view. From the Wengernalp we enjoyed an unobstructed view of the Jungfrau, the queen of the Bernese Alps, esteemed by many superior to those obtained from





WILFRED A. FRENCH
THE JUNGFRAU FROM THE GRÜTSCH RAILWAY
THE WETTERHORN

Mürren or even the Schynige Platte. The proportions of the mountain are so gigantic, that the eye in vain attempts to estimate them and space is annihilated by their vastness. The call, "*Einsteigen!*" from the conductor, interrupted our meditation, so we re-entered the railway carriage and ascended to the Kleine Scheidegg, keeping our gaze fixed upon the Jungfrau in her dazzling shroud of eternal snow. It was well that we halted here, for our eyes were feeling the effect of the snow, almost blinding in its brilliancy, and we were only too glad to make use of the smoked glasses with which we had provided ourselves. We once more entered our carriage, taking a last look at the Jungfrau, soon to disappear from our view, and the monotonous click, click was again heard, as the train slowly descended into the smiling Valley of the Grindelwald.

The modern aspect of the village of Grindelwald — due to its having been rebuilt after a conflagration a dozen years ago, which destroyed the entire hamlet — seems incongruous and out of harmony with nature's primeval architecture. The most conspicuous object in the landscape is the beautiful Wetterhorn with its rocky peaks and glittering snow-fields, and, in company with the Eiger and Schreckhorn, resembling huge sentinels, it guards the valley. This pleasant little valley, about four thousand feet above sea-level, is a popular resort in winter as well as in summer, and a special favorite with English and Americans, whom the villagers are eager to propitiate. We were, therefore, amused at the quaint English of the following notice posted in the hotel where we lunched — "Strange gentlemens will to please not dress for dinner, as this costume flutters the hearts of the maid-folks, and no work is accomplished." Hiring a conveyance we visited the Upper Grindelwald Glacier. The sweet notes of an Alpine horn produced by a strong-throated mountaineer, were carried lightly on the balmy air, and, as we passed the peasant-musician shortly after, we wondered that so huge and clumsy-looking an instrument as the *Alpenhorn*, could emit tones of such mellifluous quality. Descending, we walked to the famous ice-grotto, several hundred feet long, artificially hewn into the glacier. One experiences a singular sensation when within this artificial cavern, the bright, translucent blue, all about us, producing a strange effect.

We returned to Interlaken through the Lütschen-Thal, by rail, a ride of little more than an hour. In the evening we purchased souvenir wood-carvings — in which industry the Swiss are unexcelled — and attended the fair at the *Kursaal* (casino), held for the benefit of a worthy charity. The feature, most interesting to us, was the twenty-two booths with their special, gayly-attired attendants, each set of costumes representing a Swiss canton. Bidding farewell to beautiful Interlaken, the next morning, we went on the little steamer "Oberland" to Brienz.

Unlike its twin brother, Lake Thun, Lake Brienz displays the sterner and more solemn side of nature. The shores dark and steep, impress us by their stillness and sublimity, lifting the mind above the sordid thoughts of life as they themselves rise higher and higher, culminating in the lofty peak of the Brienzer Rothhorn. The last stopping-place before Brienz is the Giessbach Falls, one of

WILFRED A. FRENCH SCHOOL CHILDREN, MEIRINGEN

the most romantic and fascinating spots imaginable. We surrendered to its blandishments without a murmur and passed the greater part of the day here, watching with keen delight this glorious spectacle, for the Giessbach is certainly the prettiest falls we had ever beheld. It is composed of seven or more cascades leaping gracefully from rock to rock — the highest said to be twelve hundred feet above the lake — and, to enhance still further the ravishing beauty of the scene, a series of rainbows formed over the lower falls. To observe this rare and beautiful sight, we promptly assembled on the terrace at the given hour. The two large hotels here were filled with guests, many of whom remain for weeks at a time, and numerous important points of interest awaiting their pleasure are close at hand. Toward evening we went in a row-boat across to Brienz, and thence, half an hour by train, to Meiringen, choosing the Hotel *Zum Wilden Mann* (du Sauvage) as our temporary abode, from whose balconies we secured several views of characteristic beauty. We were struck by the regularity of the streets and the newness of the dwellings of this famous resort, learning that the village had been practically wiped out by fire about the same time as Grindelwald, and had to be rebuilt. Meiringen is a favorite rendez-vous of English tourists, our hotel containing a large English party, which was passing the summer here, and under the guidance of Rev. J. T. Horsely, its pastor, making daily tramps into the surrounding mountains. This beautiful Hasli Valley abounds in charming points of interest — gorge, waterfall and glen, but none delighted us more than the wonderful Gorge of the Aare (Aarenschlucht). The plank-walk, constructed the entire length of the ravine with skill and daring, characteristically Swiss, enabled us to explore this natural wonder with perfect safety. The photographs taken here by members of our party proved very satisfactory.

GEORGE ALEXANDER POND LILIES

Lucerne being our next objective point, we agreed upon a partial climb of the Brünig Pass, starting from Meiringen two hours ahead of the train for Lucerne and boarding it at Brünighöhe. Halting many times during our ascent of the pass and looking back, we obtained superb vistas of the Hasli Valley and the surrounding natural beauties, which are the secret of Meiringen's wide-spread popularity. At Brünighöhe begins the descent, the train moving cautiously down the steep decline, halting at Lungern a few minutes, and enabling us to enjoy the picturesque retrospect. Continuing slowly, we pass the Lake of Lungern, Giswil — where the train abandons the cog-system and proceeds with rapidity — the Sarner See, Sarnen and Alpnach. We begin to scent with an insatiable, burning desire the not far-distant Lucerne, Rigi and Pilatus. Our impatience grows steadily and our hearts begin to thump. We enter a tunnel. Oh the torture of it! Will it ever end? At last we emerge and the limpid waters of the historic lake, with the Rigi opposite, burst upon the vision! With hungry eyes we devour the apparition. It is of short duration — it is gone! In ten minutes — it seems an eternity — the train stops at Lucerne. The neatly-attired functionaries of Lucerne's famous palace-hotels were there to receive us, but not being multi-millionaires, we entrusted our persons and earthly belongings to the agent of the Hotel des Balances, and a more kindly and obliging host than Herr Zähringer it were hard to find.

(To be continued.)

MARION STARK GAINES APPLE BLOSSOMS

INDIVIDUAL TREE PHOTOGRAPHY

I. W. BLAKE

ALTHOUGH there are a score or more of books written by well-known nature students descriptive of our native trees, we shall find, upon examination, that, while often finely illustrated otherwise, the majority of these books lack one important feature — that is, a clear, sharp picture of the actual form, shape or outline of each individual variety, taken as a characteristic whole. Such a picture is usually missing, or, if present, it is sadly blurred and indistinct, and often of a specimen so poor as to convey but little idea of the tree's real appearance.

Pictures of this kind may be artistic. They are, however, neither interesting nor instructive, since, to be of any practical value, a tree reproduction should be so characteristically defined, that he who runs might read — or recognize in the forest at a glance — that which he saw portrayed in a book the day before. Indeed, such a truthful representation we would find to be of the greatest value when, at last, we open our eyes and discover that a tree is something more than a mere post with leaves; and learn that it is really a living creature — so to speak — each having its characteristic "temperament," indicated in its very bearing and manner of growth

Winter is the proper season for studying the characteristic forms of trees. Many of us think about a tree only in summer, and then simply because of its welcome shade on a hot day. We do not think of its shape; this is concealed by the leaves. How few of us know that a great chestnut tree looks like a gigantic cauliflower! Yet, by this homely outline, we can single out a chestnut, as far as we can see it, from among other forest trees scattered along the distant hills. It is so with other trees — in winter. In summer, we must examine the leaves and twigs as well as the outlines.

It is by their shapes, then, that we learn most quickly to distinguish our familiar trees; and in no better or more interesting way can we acquire this knowledge than by individual tree photography.

A clear sunny day, free from wind, is essential in the successful photography of trees. Judgment in selecting the point of view, especially in its relation to the time of day, is all-important. No tree should be photographed in a hurry. The locality should be visited both morning and afternoon, before making the negative, for the purpose of ascertaining the proper lighting.

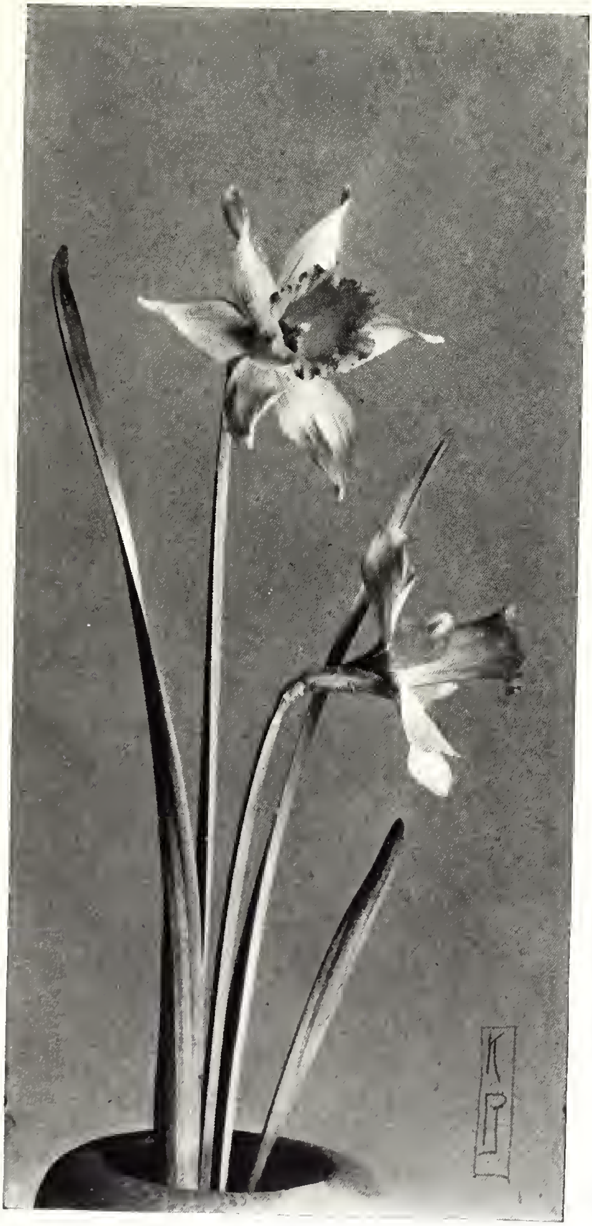
The subject, it is understood, is to be an isolated one, and one that can be taken from a point of view unobstructed by other trees, or injured by an objectionable background. Such trees are not difficult to find. They are generally in fields where a certain degree of cultivation has been carried on, and where single trees have been allowed to remain for some reason — not infrequently because of their beauty. Or, they may stand at the edge of a forest; in which case, the point of view must be, if possible, from the forest side, looking toward the open.

In securing such negatives, it is well to follow some definite plan of action. A series illustrating the same individual tree at the different seasons of the year is very interesting. Taken first in winter, when leafless, we get the perfect shape. Then in the spring, when the buds are starting, we have a record of the growing season. Again, in June, when in full leaf, and before the foliage has become rusty and ragged; and last, but by no means least, when in fruit. In some instances there will be a fifth negative — when the tree is in flower. Such a set of negatives, if taken each time from exactly the same standpoint, and if all are clear and sharp, will make valuable prints, and might be well named, "A Year of Tree Life." A choice set of lantern slides could also be made.

In making tree negatives it is not worth while to use a plate smaller than a 5 x 7. The lens should be of the highest grade, and medium speed plates used. Cramer's Medium Isochromatic plates were employed in making the tree picture which accompanies this article. Such a plate gives a more satisfactory result than an instantaneous, and the color values are obtained well enough, without a screen in addition. All tree negatives should be "time," and never snap-shots, and then, with a developer diluted with twice the quantity of water used normally, the outcome will satisfy the most fastidious. Focus sharply at f. 16, then stop down to f. 23 (32 U. S.), and never employ a larger stop. Give from one-half to one and a half seconds exposure. Tree detail is what you are seeking — not atmospheric effect. If there should be any wind, remember that directly after each strong gust there is usually a momentary lull. Wait for these intervals or, better still — wait until another day.

Making the negative is not by any means the most difficult part of tree photography. Both the point of view and the position of the sun are most important factors. Perhaps you have never noticed the effect produced by varying light and shade. Then study some near-by tree. It is astonishing how much one can learn when one really begins to "take notice."

Look at the tree first in the early morning, after the sun is well above the horizon. That side — you will face the sun, if you please — toward you, will be wholly in the shade, and look dark and lifeless. Walk around the tree slowly,



KATHERINE BINGHAM
JONQUILS

I. W. BLAKE CHESTNUT TREE IN SPRING

at a distance of about fifteen feet, and watch the appearance of the trunk. There was no detail when you faced the sun, but as you move on in a circle, a bit of light creeps around to meet the dark. Keep on slowly, until the light has advanced so that the trunk is now half in sunlight and half in shade. Then step backwards until the trunk is one quarter light and three quarters dark. There is something wanting. The tree trunk looks bright enough, but it does not stand out in relief, round and lifelike against the distance. Step forward again, until you see the trunk in three quarters of the light, while only one quarter is in the shade. Note the difference! *Three*-quarters *light*, and *one*-quarter *dark*, and there you have the whole matter in a nutshell!

The hour of the day when this most desirable effect is obtained, will depend upon the position of the tree with relation to the points of the compass. We must also decide from which point of view the subject looks best, both as to shape and background; and when the sun has crept around sufficiently to cast the light as has been described — *that* will be the hour for making the negative. This hour may be morning, high noon, or afternoon. It can only be determined by observation.

If the lighting and the time of day and the background cannot be made to harmonize, simply select a better subject — one without these objections. It is folly to waste plates where results that will be satisfactory in every particular cannot be secured; and nothing will be gained by making the exposure on such a subject during a cloudy day, for sunlight and shadow are what give life and brilliancy to a negative.

In winter, the proper effect is in this way easily obtained. In summer, however, the light should be handled differently, because then the trunk is more or less hidden by leaves and branches, and its roundness is of less importance. Shape and beauty of foliage are now to be considered. Therefore, while in winter the light may fall horizontally, vertically, or diagonally — tree picture making in summer must be effected by a more horizontal lighting. The sun's rays between seven and eleven in the forenoon, and from three to five o'clock in the afternoon, strike the tree in a straighter line — so to speak — and penetrate the thick foliage, brightening up the heart of the tree in a way that a vertical, noontime sun, cannot do. It is during these hours, then, at that season, that trees in full leaf should be photographed.

It is obvious that the time of day, and its accompanying angle of illumination, in connection with full exposure and slow development (without bromide), have all to do with the making of a satisfactory negative in Individual Tree Photography.

KALLITYPE

LOUIS FLECKENSTEIN

WITHIN the past few years Kallitype has sprung into prominence as one of the standard photographic processes. Many formulas have been published, but in most cases at such length as to confuse the mind of the uninitiated and create a doubt as to the vaunted simplicity of the process. To the adept these details are very useful; but they are unessential to one who desires only the groundwork, as it were, from which to make a beginning. To this end I shall outline as briefly as possible my own method, which, for all practical purposes, covers the ground completely, and will enable any one to get as good results as may be obtained with any of the modern printing processes. Experience and practice are necessary with any kind of paper before perfection is attained. And so with Kallitype. If the directions are followed carefully, good results are certain.

Procure an ounce each of the following chemicals: Ferric oxalate (M. C. W.), potassio ferric oxalate (M. C. W.), nitrate of silver, potassium bichromate, oxalic acid and gum arabic.

Make up your stock solutions from the above list, using amber-colored, glass-stoppered bottles, appropriately labeled. They should be kept in a cool, dark place, and will keep indefinitely.

Ferric oxalate: Dissolve your ounce of this chemical in 5 oz. *distilled* water and add 50 grains gum arabic.

Potassio ferric oxalate: Make up a saturated solution — about ¼ oz. to 8 oz. of *distilled* water.

Oxalic stock: Dissolve the ounce of oxalic acid in 8 oz. *distilled* water, warmed to about 75 degrees F. Add slowly 200 minims stronger ammonia. The resulting mixture should be a perfectly clear solution.

Restrainer: A five per cent solution of potassium bichromate.

After these solutions have been made up they may be combined, for saving of time and convenience when sensitizing. Thus, in a bottle labeled "Sensitizing Stock," make up the following: —

Ferric oxalate (solution)	1 oz.
Potassio ferric oxalate (solution)	½ "
Oxalic stock	30 drops.
Restrainer	3 "

Now, all you need to do when you want a supply of paper is to take ½ oz. of the above "Sensitizing Stock," add to it 12 grains nitrate of silver previously dissolved in a few drops of water, and spread it on your paper. As the silver nitrate crystallizes rapidly, it should not be added until all is ready for sensitizing.

Any good linen or bond paper may be used. Weston's ledger is ideal for small work and Whatman's drawing paper for large prints and broad effects. Cut the full-sized sheets once or twice in two to facilitate handling; observe that the glazed or smoothest side of paper is up; tack corners lightly on a smooth board previously covered with clean paper; have your spreader ready — a wad of cotton wool wrapped in a piece of canton flannel, or a 2 x 3 inch strip of celluloid wrapped with flannel and fashioned into a brush. Now pour into an ounce graduate about 1 drachm of the sensitizer, dash this over the sheet to be sensitized and spread thoroughly and rapidly with your brush, taking time, however, to get it well into the corners and along the edges, brushing lengthwise and crosswise until evenly distributed. Smooth papers require less than rough, but too much is better than too little, as heavy coatings yield full, rich tones. Sensitizing may be carried on in a fairly well-lighted room, by daylight or artificial light, and the paper then pinned up in a dark room to dry. After drying, the sheets may be cut up into convenient sizes and stored in tin tubes or empty plate boxes until used.

Printing is best carried on in direct sunlight. The Kallitype image is very similar to Platinum or Eastman's Sepia; and one or two trials will enable you to gauge the depth of printing necessary.

This brings you to the stage of development. You will require two solutions — a developer and a clearing bath. They may be made up in quantities, as they keep indefinitely.

Developer for Brown Tones: —

Powdered borax	1 oz.
Rochelle salts	2 "
Distilled (hot) water	26 "

First dissolve the borax in the hot water, and when cool add the Rochelle Salts.

W. H. PORTERFIELD
IVY-LEAF GERANIUM

GEORGE ALEXANDER MORNING GLORIES

Developer for Warm Black Tones:—

Acetate of soda	4 oz.
Tartaric acid	60 gr.
Distilled water	1 qt.

Clearing bath:—

Distilled water	1 qt.
Rochelle salts	$2\frac{1}{2}$ oz.

Place about 4 oz. of either developer in a tray, to which add 2 or 3 drops of restrainer. In a second tray place a like quantity of the clearing bath, to which add 30 drops restrainer.

Take your print by two corners and pull it through the developer, face downward, then face up, rocking the tray and breaking air-bubbles quickly with the tip of a finger. The image gains full strength rapidly, and may be transferred to the clearing bath in one or two minutes and left there until all are ready for fixing. Lay face downward in the clearing bath or cover the tray to prevent fogging.

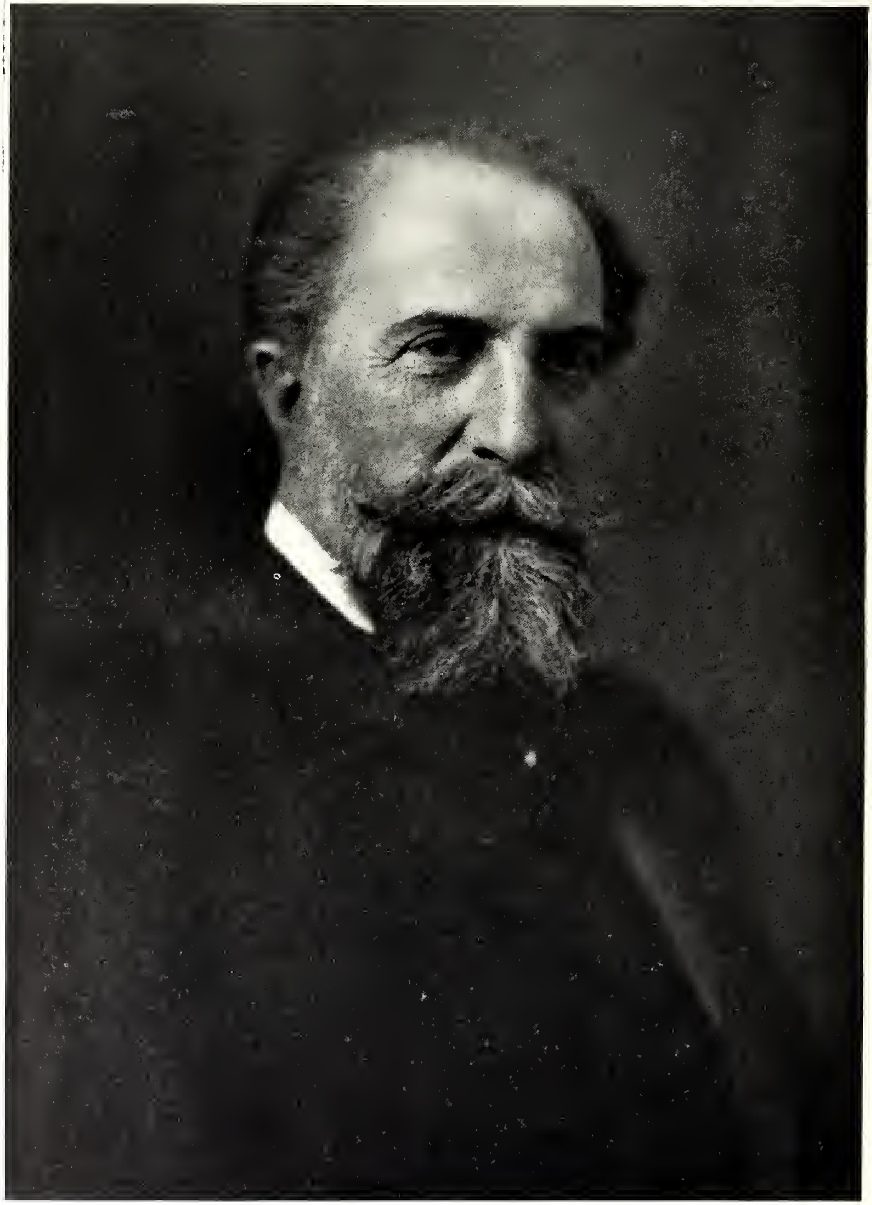
By using half each of the brown tone developer and clearing bath (stock solutions), rich sepia tones are obtainable. Add restrainer as may be needed.

L. S. CLOUGH MILKWEED POD

After the printing and clearing operations are completed the prints should be washed in several changes of fresh water, then fixed for ten minutes in a plain hypo bath (1.25), after which wash thoroughly for an hour in running water and hang up to dry.

The restrainer plays an important part in Kallitype printing. Strong, vigorous negatives require little or none at all, and such negatives should be printed first. Weak negatives may require up to 20 or 30 drops before a satisfactory print is obtained, but these are extreme cases. Ordinarily, one drop to the ounce of developer is about right. It is evident, however, that Kallitype offers control of printing quality not found in commercial papers; while, for cheapness and ease of manipulation, it certainly cannot be equaled.

NOTE. — The illustrations accompanying this article and which we regret did not lend themselves readily to half-tone reproduction, were made absolutely in conformity with the directions above. Some of the solutions were made five years ago and show no deterioration.



BROOKLINE ART UNION
WILHELM GERICKE

WILHELM GERICKE

WILFRED A. FRENCH, PH. D.

NEVER, perhaps, in the history of the Boston Symphony Orchestra, has there been so much speculation regarding the identity of the successor of the retiring conductor, as has been indulged in during the past two months. The interest shown in the change of musical director of this, America's foremost orchestra, has been very extended; for in every city in this country, where the Boston Symphony Orchestra has appeared, there exist hosts of sincere admirers of this admirable body of players, which owes its peerless technical excellence to the genius of one man — Wilhelm Gericke. For a total of thirteen years, Mr. Gericke has been the conductor of the Boston Symphony Orchestra, and he is leaving it at a time when his powers seem to have reached their loftiest development. The principal newspapers of New York, Philadelphia, Baltimore and Chicago have editorially commented upon the great loss American musical art sustains by the departure of Mr. Gericke, who has established in the city of Boston the highest standard of orchestral playing that it has been possible to reach. Indeed, as regards technical perfection alone, it is safe to assert that there is no body of instrumentalists, be it in Europe or America, equal to the Boston Symphony Orchestra. This opinion is shared by nearly every musician of note who has heard the orchestra, including artists of international repute who have appeared with it as soloists. No other band can boast of the symmetry, the suppleness, the adroit proportioning and the wondrous euphony of its tone. To accomplish these truly remarkable results, Mr. Gericke has labored with rare devotion, sparing not his men and, least of all, himself. All of his vast store of energy and patience has been put into his orchestra, which, as it exists to-day, is practically his creation. During the last few years, as the popularity of the Boston Symphony Orchestra increased, the work of the conductor has grown more taxing, but Mr. Gericke has never wavered in the devotion to his task. On the contrary, during the season just ended, the orchestra has displayed not only an astounding degree of virtuosity — ninety-four men playing with the understanding, expression, enthusiasm and technical finish of *one great artist* — but with added breadth, warmth and brilliancy, that have astonished even its warmest admirers and won the approval of the most prejudiced music critics. How much, therefore, musical Boston is indebted to this man, is difficult to estimate in ordinary terms. The possession of two great musical organizations, the Handel and Haydn Society and the Boston Symphony Orchestra, surpassed, as these are, by no other similar bodies in existence, gives to Boston the rank of the leading music center in the new world. No one would deny that, after having so brilliantly and successfully accomplished one of the greatest tasks ever imposed upon a musical conductor, Mr. Gericke is entitled to the retirement and rest he has so richly earned; and he takes with him the most profound good wishes of every true music lover of this country, on his voyage to his home in Austria.

"In shining groups, each stem a pearly ray,
  Weird flecks of light within the shadowed wood,
  They dwell aloof, a spotless sisterhood.
No angelus, except the wild bird's lay,
Awakes these forest nuns; yet, night and day,
  Their heads are bent, as if in prayerful mood."

—*Indian Pipes* BY MRS. E. H. BAYNES.

THE EXHIBITION OF WORK BY WOMEN PHOTOGRAPHERS AT THE HARTFORD CAMERA CLUB

EVAIRE H. CUMMINGS

EARLY in the month we had the pleasure of visiting a unique exhibition at the Hartford Camera Club rooms, which was open to the public from April 6 to 10 inclusive. The prints, numbering about two hundred in all and submitted by some thirty-five representative women photographers of this country, were tastefully hung in the club rooms and made an excellent showing. Although we have long been conscious of the many women numbered in the front rank of the photographic profession, yet the united effort of so large a number, which made the Hartford exhibition a success, was a somewhat unexpected and therefore extremely pleasant surprise. Truly such an array of pictures should carry inspiration to the heart of every woman who is striving to work out a successful career along original lines in her chosen art.

Many of them prize pictures, the collection was, as a whole, strong and thoroughly representative. The absence of work by members of the Photo-Secession was much to be regretted, but with seventeen states offering prints, there was little left to be desired.

Mrs. E. H. Baynes was represented by some delightful studies of wild flowers. The secret of her success lies in the fact that she always photographs flowers in their natural haunts, just as they grow in the fields and woods. One of her studies is reproduced in this issue. Miss Katherine Bingham's prints showed her characteristic daintiness of pose and lighting, her print "Sunrise" deserving especial mention. The prints sent by Mrs. Brigman and Miss Boughton were characterized by a remarkable depth of feeling and artistic treatment. Their collections easily led the work submitted in originality of conception and manner of treatment. Clarissa Hovey, Mary Carnell and Miss Reineke sent portraits stamped to a marked degree with the individuality of the artist, but all of a tone far above ordinary professional work and deserving especial mention. Fedora E. D. Brown was represented by some of her well-known Salon pictures, and Mrs. W. W. Pearce also showed three of her most successful and ever charming child studies. Miss Virginia M. Prall's excellent collection of prints attracted much attention, perhaps the best print being "La Reveuse." All of Miss Prall's work is characterized by simplicity of conception and breadth of treatment, which, combined with a thorough knowledge of the possibilities of her medium, win for her the success she deserves.

Among the other contributors who made an excellent and most creditable showing were Eleanor W. Willard, Mary G. Huntsman, Myra A. Wiggin, Misses W. and G. Parrish, Mrs. Charles S. Hayden, Adelaide Hanscom, Helen P. Gatch, Sarah J. Eddy, Jane Dudley, Jessie Tarbox Beals, Helen W. Cook, Flora M. Colman, Margaret L. Bodine and Nina F. Lewis. Lack of space prevents further mention in detail, but we hope in a later issue to be able to reproduce several of these studies which will speak for themselves.

It is to be regretted that Mr. H. O. Warner, through whose unceasing efforts the suggestion of an exhibition by women photographers of America became a fact, cannot arrange to have the exhibit sent to other camera clubs. The stimulus which the feminine contingent of every club would receive from seeing such an effective proof of the possibilities for women in the photographic art would certainly be ample recompense for the trouble incurred; and the women members are not the only ones who could derive pleasure as well as benefit from viewing this remarkable collection of pictures.

BY NATURE TUNED

AGNES LOCKHART HUGHES

Sing me a song of the fragrant glen,
Where the brook, with its fretwork of foam,
Leaps o'er the rocks, and tosses its pearls
On the banks where sweet violets roam.

Sing me a song of the whispering trees,
In the heart of the forest cool,
Where the butterfly kisses the wild pink rose,
As she leans o'er the laughing pool.

Sing me a song of the winding path,
Where the golden-rod flaunts her plumes
And the idle drone of a bee is heard
As he filches the sweets from the blooms.

Sing me a song of the winsome maid—
The flower-decked goddess of May—
With lips made for kisses, and heart full of love;
She comes in the Springtime gay.

So—it's sing me a song, by nature tuned,
With gladness and joy its theme;
For May with her laughter dispels dull care,
And life seems a peaceful dream.

THE BERKSHIRE LIMITED—WESTFIELD RIVER

A TOUR OF THE BERKSHIRES

HERBERT W. TAYLOR

(Illustrated by the Author)

SURELY all people have some innate love for beauty, whether the taste be an educated one or merely the unthinking instinct which causes even the roughest man to pause before a charming picture, be it the work of nature or of man. A very pretty story is told of a party of travelers in Ireland coming upon an old man who was standing, hat in hand, before his cottage door, and gazing off into the distance. In answer to a curious question, the old gentleman said, "Every morning I stand here and thank God for the beautiful picture in front of my house." There is a picture in our own dooryard, if our eyes are capable of seeing it. Still we who live in cities must go afield to find the old man's picture, and where can we travel with greater certainty of obtaining such views than through the Berkshire Hills of western Massachusetts, along the line of the Boston and Albany Railroad?

Suppose we are starting from Boston for a vacation trip in the Berkshires, with a camera to help pass the time pleasantly and with hopes of bringing home a series of pictures which shall keep the vacation fresh in the memory during the long months which must intervene before another holiday. We shall find the journey easier than in the days of stage-coaches, when Capt. Mayne Reid, that entertaining writer of tales of adventure, took the stage trip from Worcester to Albany, back in 1826, and remarked that "A few crazy spirits think of putting a railroad through this wild and desolate region."

Thirteen years later the Western Railroad was opened. At first the trains went slowly, and when more speed was talked of, one of the old settlers exclaimed, "The idea of going fifteen miles an hour! Why," said he, "wood and iron won't hold together to do it." Later the Western Railroad was extended as far as the New York Line, to meet the Hudson and Berkshire Railroad, and as the Boston and Worcester Railroad had reached Worcester in 1835, the connection between Boston and Albany was thus completed.

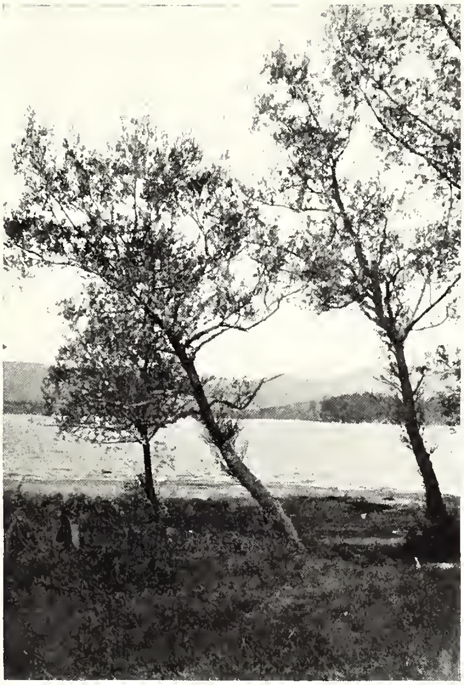
Riding comfortably over the Boston and Albany line to-day at fifty or sixty miles an hour, the idea of jogging along at the rate of fifteen miles seems ludicrous; and realizing that a thousand passengers is not at all impossible on a modern train, it is interesting to refer to a Boston and Worcester Railroad report of 1840. This document seriously states that "It is obvious that two hundred passengers with their baggage would form too heavy a load for a locomotive, and to suppose an average of two hundred passengers is to suppose more than would be accomplished, even if two hundred passengers were found for one trip."

Before starting for the West, a day may be well spent on the circuit line of the Boston and Albany, through Brookline and Newton, the finest of the suburbs of Boston. Here the architect and landscape gardener have vied with each other in making beautiful homes; and it is along this line that the railroad has most liberally expended taste and money in erecting stations in keeping with the character of their surroundings, while their own gardener has shown himself a master of his art in beautifying the grounds about the stations. Ivy-covered walls, flowering shrubs and neatly graveled walks attest the love he has for his work.

Next day, comfortably settled in a luxurious car, as the train bears us swiftly westward between grassy banks brilliant with snowy spiræa and bright red roses, we cross at Auburndale the Charles River, dotted with canoes, and then speed on through the Wellesleys, past each of the three stations set in its own pretty little park. If it happens to be a Tuesday morning and college is open, we shall leave a bevy of girls at Wellesley, returning from the week-end vacation. Monday is the holiday in place of Saturday, because the founder of the college shrewdly guessed that, should the pupils have Saturday free, the preparation for Monday's recitations would too often be left until Sunday.

Leaving Worcester, as the train passes through Spencer, we notice a large sign which announces that near here was the birthplace of Elias Howe, the father of the sewing-machine; and after a lunch at Springfield the train crosses the Connecticut River, and, with the Westfield River alongside for company, we shall soon find ourselves among the mountains and tumbled hills of Berk-

MIDDLEFIELD BROOK



LAKE PONTOOSUC

A SENTINEL ON CHESHIRE POND

FALLS AT HUNTINGTON

shire County, wherein the "only spot of repose is the wide valley basin where Pittsfield stands."

Long before journeying to Pittsfield, however, we shall want to stop at Russell, where the Westfield flows murmuring over the rocky bed, and running under a lofty mountain hides from sight, like the tail of a rainbow, behind a bold bluff. If we should stay aboard the train we would find from here on a continuous winding of the river in and out between high, wooded hills.

From Russell a steep drive leads to Blandford, famous for the pure air, and a favorite resort for jaded humanity. Over the smooth state road from Blandford through Otis to Chester is a delightful drive, but we must walk from Chester to Middlefield to get the full benefit of the scenery. Taking lunch and the camera, a full day is none too long to give to this walk of six or seven miles. The entire distance is a series of changes from deep defiles between lofty peaks to broad valleys and gently swelling elevations, with the babbling Westfield always in view, sometimes narrow as a mountain brook and then again spreading out in a silvery sheet. Every turn brings a new picture, and the diversity of composition keeps the enthusiastic photographer on the *qui vive.* But the real time of the year, when any sacrifice to be here will count as nothing, is in October, when nature turns the leaves and the hills are masses of red and gold, with dashes of white birch gleaming in the autumn sun. Then the photographer, confined to monochrome, becomes madly jealous of the artist in colors. One more glorious view from the granite arch near the Middlefield station and let us take to the iron horse once more and go to Becket, where we shall have to visit the gorge and photograph the brook as it tumbles down its steep rocky path.

Onward once more, out over green meadows and then shooting in again between the embracing hills, the train climbs higher, and still higher, until we reach the deepest cut on the line of the railroad, a grand sight in winter, with great gleaming masses of ice hanging from the walls, seeming, in the glare of the sun, like crystal stalactites. A few rods beyond the cut is Washington station, seventeen hundred feet above the sea.

Now the track curves rapidly downward, and in a short time we find ourselves in Dalton, the home of Senator Crane and of Uncle Sam's greenback paper. At Dalton is the Wizard's Glen, where tradition says the Indian priests offered human sacrifices to their God; but beyond the personal and traditional interest of Dalton is the natural beauty of the site, the paper mills nestling in the valley beside the Housatonic River, and the town resting on the side of a gently rising hill.

Once more we board the train and ride so swiftly and easily down the grade that in a few minutes we find ourselves in Pittsfield, the gem city of the Berkshires. Pittsfield is rich in historic interest, and she has had many sons of whom her people are justly proud.

A GRACEFUL CURVE

Here was the home of Senator Dawes, Oliver Wendell Holmes and Gordon McKay, who revolutionized the shoe manufacturing industry by his inventions; each lived here for many years. It was on beautiful East Street, a broad thoroughfare bordered with graceful overhanging trees and lined with handsome residences, that Longfellow wrote

> "Somewhat back from the village street
> Stands the old-fashioned country seat;
> Across its antique portico
> Tall poplar trees their shadows throw —
> And from its station in the hall
> An ancient timepiece says to all —
> Forever, never,
> Never, forever."

Pittsfield is famous for its stately trees, and those along East Street are unusually beautiful. A grand monument was lost forever when the great elm, one hundred and twenty feet high, which shaded the ovation to General Lafayette in 1825, had to be removed from the park.

How many know that this city was named for England's great statesman, William Pitt? The first settlement, in 1752, bore the title of The Plantation of Pontoosuc, but nine years later the name was changed in honor of the man who by his noble defense of our colonies had made himself the idol of all parties in New England.

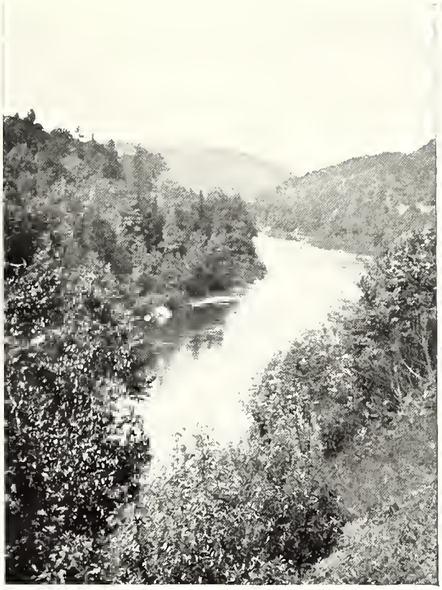
A branch of the Boston and Albany goes north from Pittsfield to North Adams, or we may go part of the way by trolley, past Pontoosuc, one of the most attractive lakes in New England, and through a charming bit of country to Graylock, passing *en route*, in Lansboro, the cemetery where lies that quaint humorist, Josh Billings (C. H. Shaw). Near by is Berkshire's greatest natural curiosity, a mass of weather-stained marble, thirty by fifteen feet in dimension, and balanced on so small a surface that it may be rocked with comparative ease, although no force applied has ever been sufficient to dislodge it.

To realize that this is high country it is only necessary to climb Little Mountain, in Cheshire, where there is to be had a view of five States.

Soon we approach the goal of the day's excursion, Graylock, "veritable Alps of Massachusetts, crowned with a coronet of green and gold in summer and autumn, and hoary frost and virgin snow in winter"; Graylock, rearing its head thirty-five hundred feet on high and bearing on its face the broad scar of a great landslide. A reservation of five thousand acres has been created for the preservation of Graylock Mountain, and good roads make the approach and ascent sufficiently easy.

We may make another side trip from Pittsfield to the south, visiting Lenox, Lee, Stockbridge, and Great Barrington, where we shall find the footprints of some of America's most famous literature. Lenox is to most people merely a

BECKET GORGE



THE WINDING WESTFIELD

town of millionaires; a place of summer homes, but more especially a resort for the glorious autumn.

The millionaires certainly keep Lenox very clean and well groomed. All wires are underground, and no stray sticks or bits of paper are allowed to litter the broad streets, with their rows of great elms. Long before mere vulgar riches took possession of the town the same noble trees were an inspiration to Henry Ward Beecher, who once lived here and often spoke feelingly in his sermons of the grand old Lenox elms. Lenox was always a favorite resting-place with people who thought and who did things. Fanny Kemble lived here during the twenty years preceding 1870, and her home was a rendezvous for literary celebrities. James Russell Lowell was well known here, and Charlotte Cushman was educated in Mrs. Sedgwick's celebrated school. The old registers of Curtis's Hotel are a treasury of autographic signatures of famous people who have stopped here within fifty years and more.

Stockbridge, or Housatonic, as the Indians called it, is fittingly described by Caroline Sedgwick in "Hope Leslie" as "a scene of valley and hill, river and meadow, surrounded by mountains, whose encircling embrace expresses protection and love to the gentle spirit of the valley."

Here Jonathan Edwards did missionary work among the Indians. Cyrus Field is identified with Stockbridge, and Nathaniel Hawthorne wrote "The House of Seven Gables" and "The Scarlet Letter" in the little red house down on the shore of the Lake Mahkeenac, the famous "Stockbridge Bowl."

Stockbridge boasts a celebrated old tavern, the Red Lion Inn, dating from 1774. But alas! Stockbridge has gone the way of Lenox. The tall, graceful village elms now cast their protecting shade upon the wealth of the land. Even the Red Lion Inn now has printed menus and private baths. The proprietor, however, has tenderly preserved much of the old furniture, and pictures, and bric-a-brac, so that on entering certain rooms one passes into the Red Lion Inn of one hundred years ago. Passing through the halls we observe shelves upon shelves laden with ancient crockery, particularly tea-pots, until the wonder grows that imagination could have devised such a multitude of shapes and styles.

Leaving Stockbridge, we are soon at the end of the trolley lines, for of course we have made the trip by trolley, lest we miss the full enjoyment of the ride through this charming country. We are now at Great Barrington, where William Cullen Bryant was town clerk for ten years, from 1815. For a century past artists, authors and distinguished members of all professions have been summer or permanent residents of Great Barrington.

All the way down we have been passing handsome country seats, and here is the famous Searles-Hopkins chateau. An instance of the institutions of the town is the Congregational Church, finished in solid mahogany, richly carved, with beautiful stained glass windows, and widely known for its thirty thousand dollar Roosevelt organ.

The autumn visitors choose wisely to spend that season in this charming environment, when the foliage is most brilliant, and the cool, dry breezes from the hills put new vigor into life.

At the end of his vacation the photographer will have a diversified collection of pictures, compositions wherein nature rules supreme, natural views beaming touches of man's handiwork, and scenes rich in historic interest, recalling the homes and haunts of a great concourse of men and women whose lives have done much to elevate the minds of their contemporaries and of succeeding generations. Surely, if the love for beauty is still latent, the Berkshire Hills is the place to develop it into a happy reality.

HOMEWARD BOUND

EDITORIAL DEPARTMENT

Flower in the crannied wall,
  I pluck you out of the crannies, —
Hold you here, root and all, in my hand;
  Little flower, if I could understand
What you are, root and all, and all in all,
  I should know what God and man is.
—Tennyson.

MAY

MAY is the magic month of the year. Mark the wonderful transformations a few May days make in the face of Nature. One day she is very unattractive in her shabby winter attire of dull browns and grays. A bit of sunlight falls, the warm south wind stirs, a dripping shower refreshes, and lo, she comes forth robed in garments of richest green, with pink and snow-white blossoms in her hair, scattering buds and fragrance everywhere.

FLOWER SELECTION

RUSKIN has taught us, by his pencil and word pictures, that no flowret or weed, however small it may be, is without beauty, and that each has a character all its own. The crocus, daffodil, anemone and violet are modest examples, yet they make a direct appeal to the photographer, because they are among the earliest of the spring flowers, and are not rich of color. Later on the eye will become embarrassed with the blaze of color in flowers, and one cannot select so readily. Yellows and whites and blues, the prevailing colors in these, are neutral tints and are best adapted for camera work. The camera is apparently blind to the brilliancy of yellow and blue and only sees in it something that is dark and dull.

ARRANGEMENT

AFTER selection, right arrangement is perhaps the most important factor in floral picture making. With the Japanese, the arranging of flowers is a fine art, calling for years of experience and study. With them the stems and leaves are a prime factor in the arrangement, since they regard them as necessary to show the character and individual growth of the natural forms. They get, thereby, mass and variety, with perfect balance in their arrangements. Plain backgrounds are, of course, to be preferred in most cases. They need not be darker, but of such a tone that the flowers will show alternately light and dark against it — the deepest shadow to be among the group and not in the background.

FLORAL PHOTOGRAPHY

PHOTOGRAPHING flowers is always ennobling because it is an expression of what is highest and best in one. To reproduce through the camera the beauty of a bunch of flowers is a lesson not only in drawing but in esthetics as well. It helps spiritual insight because it is the first step towards discovering the elements that make for beauty in decorative art. In all the arts and crafts the flower is recognized as of great value, especially for decorative purposes. For, besides its wonderful beauty of appearance and its marvelous physical structure, there lies within it, to those who can see clearly, a perfect manifestation of order, of symmetry, of proportion, of unity and of esthetic beauty. The esthetic is the highest type of the ideal. And in photographing flowers, for a motive of ornament, the attempt must be made through the photograph of the flower, to reach its ideal.

TRUE GLORY

THE question is often asked, Does success mean happiness? and just as often comes the answer back, Only in rare instances. The world accepts a man at the estimate he places upon himself. If you esteem yourself lightly, the world will take you lightly. Many men are strong at times and win success; but strong men make enemies and have detractors; envy, malice, hatred, and jealousy have poured their poison over man's fairest creations. It is only true glory that does not leave a bitter taste somewhere.

"I have before my eyes," says Jules Breton, "the last photograph of Victor Hugo; his look is all that I have seen of sadness, and of one who has been deceived in human nature."

Is it because he climbed to that summit which enabled him to measure all the vanity of the most resounding glory, compared to that easy happiness in the less elevated regions, sheltered in secret valleys?

But if for the triumphant Victor Hugo, after long struggles, if for strugglers like Michael Angelo, Rembrandt and Beethoven, the end has been disenchantment, either because of the satiety of success, or bitter suspicion, what matters it, since they have contributed to the happiness of mankind?

Then, too, who knows that they were unhappy? Had they not the supreme joy of the conception of their masterpieces? Can any cite a man of genius in all history who has been happy in the world's vulgar acceptance of the term?

"The man of genius consoles himself for his misfortunes by redoubling his work. He revenges himself for them by extending and elevating his field of inspiration, and when his infirmities stop him, he comprehends and accepts the inevitable law which demands that all summits shall be frozen. Hence the sad expression of these grand old men; but penetrate to the very depths of their looks, and you will see that constant contemplation of eternity gives them hopes which dominate all earthly joys. One feels that this grave sadness, face to face with infinite horizons, needs no other consolation than the marvelous spectacle of the promised stars."

PHOTOGRAPHY AND HUMOR

THE question is often asked, why are the American photographic magazines so often dry and uninteresting to the general reader? We believe it is because they take themselves too seriously, for one thing. The photographic writers whom we know are certainly not deficient in a sense of humor individually; but it is a fact that at public exhibitions, at lectures and in their writings, they wear long faces, collectively, as a class. Why minds otherwise so acute and clear should lose the sense of proportion in this instance is difficult to explain. Unless it be, perhaps, that they share in the general criticism, that the American public is overfed on humor. Jerome K. Jerome, the English humorist, in a recent lecture before the Central High School of Kansas City, declared that the American people are surfeited with humor, and laugh at Mark Twain nowadays more through a sense of duty than a sense of the ridiculous.

"So many brilliant men have written and joked for the Americans that they have become jaded," he said. "I thought at first that the American sense of humor was radically less subtle than ours in England, but now I know better. It is simply overfed.

"Mark Twain is, I think, the only living humorist of the old American school, and he, like Falstaff, is growing old. But the subtle touch that England likes still, and America liked once, is still his."

As a business proposition pure and simple, we earnestly commend to the attention of our esteemed contemporaries the well-known quotation from the great French dramatist: —

"Laugh, and the world laughs with you;
Weep, and you weep alone."

ART IN PHOTOGRAPHY

WE again call attention to the publication of our new quarterly, entitled *Art in Photography*. As already announced, the book is especially designed to be the official organ of the Salon Club of America and of the American Federation of Photographic Societies. But, in a larger sense, it will be devoted to artistic photography generally, and will be conducted on the broadest possible lines. The most advanced and progressive of American pictorialists have been invited to contribute to its pages. Most of them are already pledged to its support. The study of their pictures at regular intervals will help the reader to a larger enjoyment of what is admirable in picture making. *Art in Photography*, as planned, will bring our minds into communication with the master minds of the photographic world, and in its turn will bring out the best there is of our own creative powers. Only a few days now remain to take advantage of the reduced rate. The subscription price has been placed at a very popular figure and is within the reach of all. On advance subscriptions, by the year if sent at once, four complete superb numbers will be given for $5.00 — to foreign subscription add $1.25 for extra postage.

THE ABBE MEMORIAL

A LITTLE more than a year ago there died in Jena, Germany, Prof. Ernst Abbe, who has had no small share in making Jena so well known to the entire civilized world. At the time of his death, papers and magazines contained full accounts of the life and work of this truly remarkable man, reciting in detail his numerous contributions to science and his successful experiment in organizing an industrial enterprise upon distinctly new lines. Since that time the feeling that here was a man whose work has been for the good of mankind and whose memory should be fittingly honored, gathered strength until there was appointed a committee to solicit funds for the purpose of erecting in his native town a statue as a memorial. We in America seem very far off from the little German town where the statue to Abbe is to be placed; and one might think it of little account whether we help to erect the statue or not. But this is a unique occasion, as Abbe was a unique man, and most of us who know anything at all about him will consider it a privilege to contribute, however small a sum, to the statue that is to preserve his likeness for posterity. The undersigned have had for many years business relations with Professor Abbe through the Carl Zeiss Works. They desire, therefore, to see America well represented in this memorial. They believe that many will give something to show their appreciation of the great work done by Ernst Abbe, and, in order to afford such an opportunity, we have arranged, with the consent of the other members, to act as secretary and treasurer of the American committee to solicit funds for this purpose. We urgently request all who are interested to send contributions to us, be they large or small, and we ask all to assist by giving as much publicity as possible to the scheme, also by endeavoring to arouse interest and enthusiasm in the project. We shall make personal acknowledgment immediately upon receipt of contributions, and shall publish list of contributors when the total amount is forwarded to Germany.

Bausch & Lomb Optical Co.

Rochester, N. Y., March 22, 1906.

We esteem it a pleasure to endorse the foregoing appeal and sincerely hope that the responses will be prompt and generous. The Photo-Era was the first to publish in this country a full account of the achievements of Professor Abbe, contributed by Wilfred A. French, Ph.D., who knew him personally. It appeared in the Photo-Era of February, 1905, only a few days after the death of the celebrated scientist, and was widely copied by the press of this country. As a further tribute to the genius of Professor Abbe, the Photo-Era reprinted in the April issue of 1906 a long article from the London *Chronicle*, entitled "The New Battle of Jena." We are sorry to believe that we were the only publication in the United States to make this public acknowledgment and pay this tribute to the genius of the great German scientist, whom we are now invited to honor.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the Photo Era.

"May has come in—young May, the beautiful,
Weaving the sweetest chaplet of the year.
Along the eastern corridors she walks,
What time the clover rocks the earliest bee,
Her feet aflush with sunrise, and her veil
Floating in breezy odors o'er her hair;
And ample garments, fluttering at the hem,
With pleasing rustle round her sandal-shoon."

Yes, May the beautiful has come in, and with her coming the *wanderlust* stirs in one's blood, and one longs to be out in the fields, to climb the broad-backed hills, or wander by the wayward brook, or search out familiar haunts in leafy woods.

But no matter how eagerly the amateur looks forward to days out of doors, he does not forget that most important adjunct of his outing — his camera. This is the friend who preserves for him the semblance of the scenes on which his eyes rest with such pleasure, making a visible of the mental picture gallery he constructs as day by day he looks on new and unfamiliar places.

The happy individual who looks forward to many days' wanderings in foreign lands wishes to bring back with him just as fine pictures of his travels as he can possibly make. The one who understands very little about the use of a camera and who depends on the dealer to fit him out, will perhaps find himself very much disappointed with the results obtained from a camera which in the prospectus promised so much and in the aggregate accomplished so little and that not at all satisfactory. No sportsman would expect to bag any sort of game unless he understood the use of his gun and could handle it without a thought of its mechanism, its manipulation being so much a matter of habit that he worked it unconsciously. Then why should any one expect to get first-class pictures with an instrument of which he knows very little, and that not of a practical nature?

His experience is likely to be similar to that of a young man who three or four years ago went on a journey to Korea and Japan. He had never used a camera, but a friend hearing him express a wish that he could afford a good camera and plenty of films, generously bought one of the most expensive and at the same time one of the most complicated hand cameras he could have found, added a quantity of films, and presented the outfit to the young man on the eve of his voyage. Of course a book of instructions accompanied the camera, and it seemed highly probable that the long voyage would give the traveler ample time to study and master all the intricacies of the fascinating instrument.

It is needless to go into details; the result will be quite sufficient to point the moral, — out of five hundred exposed films only thirty-two were barely passable and only seven that one would call good negatives, while there were nearly half on which appeared no detail whatever.

Now, if one contemplates a long journey or an extended journey, and purposes— as who does not? — to take a camera, then the advice of the editor of the Round Robin Guild is to buy the camera *now*, and experiment with it until its mechanism is thoroughly mastered. Use it without the plate or film, just to get the movements perfect that go to the making of a negative. Then all one has to do is to put his mind on the *subject*, and his hand works the instrument mechanically, seemingly without the mind being really conscious of instigating the act.

W. H. PHILLIPS
FIRST PRIZE

Of course most people prefer the folding camera, and there is always this to say in its favor — that it takes up very little room. It is, however, much less easy to manage than the old-fashioned box camera, and it takes much longer to get your camera ready. With the box camera there is no danger of losing the fleeting subject, for the camera is always ready. There is no waiting to open the camera front, draw out the bellows, set the shutter, and adjust the focus. With the box camera all one has to do is to turn the focusing screw until it marks the distance from camera to subject, get the subject in the finder, level the camera and release the shutter — all of which is done in less time than one takes to read this sentence.

The manipulation of the camera is so simple that it is quickly learned, and one is almost always sure of good results. In such a camera one should have as good a lens as one can afford.

To develop or not to develop when on a journey is a question which each amateur must answer for himself. The developer in powder form is of course the one to carry, and this should be wrapped in tin foil and stored in a tin box. A lump of calcium chloride in the box will keep the powders from too readily absorbing moisture. In most places where one stops one will usually find a place to work, for many hotels provide a dark room for the accommodation of their amateur photographer guests. Lacking that, the local photographer is always a *bon camarade*.

What to take is another story. One must make up his mind that he cannot take everything. No pictures of foreign countries are more charming than those which depict the everyday life of the common people, and one can always find most interesting studies on the docks and in the market places.

There is one thing of which the amateur should be mindful, and that is to provide himself with plenty of films, for of course he will use films instead of plates for an extended outing. It is far better to return with a roll of film unexposed than to lack films.

B. F. LANGLAND SECOND PRIZE

Some one who was a close observer said that opportunities are like umbrellas, it doesn't take twice to lose them. This is especially true of our photographic opportunities, and he who would succeed must learn to take advantage of them.

First prize: Value $10.00.
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts, or other photographic materials advertised by us; or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in The Round Robin Guild, with all its benefits, — among which the correspondence privilege probably stands first, — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is limited to subscribers to Photo-Era.

SUBJECTS FOR COMPETITION

April. — "Portraiture." Closes May 31.

May. — "Mother and Child Pictures." Closes June 30.

June. — "Garden Scenes." Closes July 31.

July. — "Genre Pictures." Closes August 31.

AWARDS — REFLECTIONS

First prize: W. H. Phillips.
Second prize: B. F. Langland.
Third prize: Fred G. Wright.

Honorable mention: Clare J. Crary, R. A. Buchanan, George M. Chapin, C. C. Deer, J. H. Field, Miss Hattie G. Goodnow, A. R. Hutter, B. F. & J. Langland, Grace E. Mounts, E. D. Miller, George R. Muntz, A. P. Nichols, Miss Edith Ranson, Florence Marie Roberts, Wm. S. Roberts, W. O. Ruse, John Schork, George E. Starr, S. Leroy Sysson, W. Tillman, Cora A. Tilden, G. Stanley Thomas, R. E. Weeks, C. M. Whitney, Harry D. Williar, G. Wallace Williams, Gilmer Winston, M. M. Wright, James E. Young, F. E. Bronson.

HINTS ON PLATINUM PRINTING

The platinotype paper, being a partly printed and partly developed paper, allows one a great deal of latitude in its manipulation. With its use one may secure almost any sort of effect desired. Strong, clear prints may be made by exposing the paper in bright sunlight, letting the printing be done as quickly as possible, then developing immediately in a concentrated developer. Such prints are vigorous, have sharply accentuated lights and shadows, and for certain negatives this insures an excellent print.

The concentrated developer, after being used, is stored in a tightly corked bottle, set away in the dark, and allowed to settle. A warm tone of black may be obtained on a print by decanting off the clear developer, heating it, and immersing the print in the hot developer. A pleasant sepia tone may be obtained by adding to the used developer an ounce or two of a saturated solution of bichloride of mercury, allowing an ounce of the mercury to six ounces of the developer.

By exposing a sheet of platinum for a few seconds to the light, preferably placing it in a printing frame and exposing as for a picture, then making a print on the paper thus exposed, it will be found that in case of a negative with strong high lights and sharp contrasts the "flashing" of the paper in the sunlight has subdued the high lights so that the sharp contrasts are almost entirely eliminated. This is specially recommended for portrait work, where there are unpleasant high lights on the face. This process is also recommended for landscapes, where sky and water are rendered too white in the ordinary print.

Paper that has been kept for some time and when examined seems to have turned to a yellowish gray, is to the uninitiated an indication that the paper is spoiled. Not so; the paper has undergone certain chemical changes, it is true, but this paper will be found specially good for negatives with sharp contrasts. The contrasts are far more agreeable, and the tone of the print is much warmer and richer than if made on fresh paper.

FRED G. WRIGHT THIRD PRIZE

A soft mellow tone may be imparted to prints by letting them remain undeveloped for a week or two, always being careful to have the can contain a piece of calcium chloride to avoid the paper absorbing dampness. Of course the pictures are stored in a can which has contained paper.

An accidental cream tone in the paper was obtained by slipping a print between the leaves of a blotter, the sheets of which were a deep orange. The print was forgotten, and it was two weeks or more before it was chanced upon. It was then developed just to see what it would be like, and it was found that the sensitive surface of the paper had absorbed enough of the coloring matter from the blotter to give it the tone of an old yellow engraving. Other experiments are to be made along this line — as the little boy said when he set the house on fire — just to see what happens.

Then there is the brush development of the platinum print, whereby one may obtain all gradations of tones, from strong, clear blacks to delicate grays. The rough paper will be found more satisfactory than the smooth for brush work. The smooth paper allows the glycerine and developer to spread outside its limits, while the rough paper seems to hold the developer in the place where it is applied. The beauty of brush pictures is that no two ever are or can be exactly alike. This method of developing prints is one of the most fascinating, for it seems, and is in a certain sense, creative, the artist controlling the lights and shadows in the picture, bringing out parts here, eliminating others there and, if he is an artist, producing a picture which is at once the joy and the despair of the uninitiated.

A series of landscapes developed with a brush are more like a collection of wash drawings than like the photographs which we know as landscape views.

Directions for brush development were given in the August Photo-Era, 1904, in the Round Robin Guild department. An early number will contain further hints on this way of finishing one's prints.

SEPARATING GOLD FROM ALLOY

Gold, when used for coins or jewelry, etc., always contains more or less alloy, for gold is too soft a metal to be used alone, consequently it is mixed with some harder metal so that the article will wear longer.

The purity of gold is designated by carats, pure gold being 24 carats fine. Before the metric system was adopted a gold coin called a mark was used as the unit of standard weight, a carat being $\frac{1}{24}$ of the weight of a mark. Pure gold is 24 carats fine; and when gold, coins are usually 22 carats fine, meaning that the coin contain 22 parts pure gold and 2 parts of alloy. Jewelry contains much more alloy, and the jeweler used always to put on his articles of jewelry a number designating how many carats fine the piece was; thus the number 18 showed that the piece contained 18 parts of pure gold and six parts of alloy.

For use in photography the gold must be as pure as possible. Amateurs using much gold find it cheaper to prepare their own gold rather than to buy it already prepared.

Gold coins are so nearly pure they may be used without separating the alloy, but for pieces of old jewelry the process is quite necessary. Dissolve the gold in "aqua regia," which is the only known solvent of gold. One can obtain this solution at the dealer in photographic supplies or make it oneself. The formula is 1 oz. of nitric acid, 2 oz. of muriatic acid, and 3 oz. of water. Put the jewelry or pieces of gold into a glass vessel, pour over it eight times its weight of aqua regia, set the vessel in a dish of hot water and let it stand on the back of the stove until the gold is dissolved. Pour the solution into a porcelain crucible, and subject to heat until all the free acid has evaporated, then cover with pure water and evaporate again. When the water is evaporated, add enough pure water to make the solution the standard strength — 1 grain of gold to 3 drachms of water. This is all the process necessary for the dissolving of pure gold; but in case of much alloyed gold, add to the water after the acid has evaporated a small quantity of ferrous sulphate. This will cause the gold to be precipitated to the bottom of the vessel in the form of a brown powder, while the alloy will remain in the solution. It requires some little time for the gold to settle; and when it is deposited turn off the solution carefully, wash the gold in pure water and redissolve in fresh aqua regia.

One can, by taking a little trouble, prepare gold enough to last a year from a few bits of discarded jewelry.

SEL D'OR

Sel d'or is the double salts of gold, and is used in making sensitive paper in different tones, especially the delicate violet tones. This double salts of gold is the form in which gold was used for toning daguerreotypes in the early days of photography. The silvered plate on which was the picture, was coated with a solution of *sel d'or* and then heated. The gold was melted or decomposed by the heat and deposited on the picture, giving it not only a beautiful tone but also preserving it.

Sel d'or is made by taking three parts of a concentrated solution of chloride of gold, one part of concentrated solution of hyposulphite of soda, covering the two chemicals, when thoroughly mixed, with alcohol. Shake the mixture well and set aside for a time. The alcohol will cause the chloride of gold and soda to be precipitated in delicate, needle-like crystals, which dissolve readily in water. The mixture is left uncovered in the glass vessel until the alcohol evaporates.

ANSWERS TO CORRESPONDENTS

E. C. Gry. — See the Round Robin Guild department in the March, 1905, Photo-Era, for an article on indexing and storing films. An illustration accompanies the article, and you will find the cases a most helpful solution of your problem, "How shall I store my films so that I may find any one quickly?"

Bertha B. — To tint platinotype prints a light golden brown, soak before drying in a strong infusion of coffee or of black tea which has been steeped some time. Tannin in strong solution will also tint the paper, as will a weak solution of permanganate of potash.

Carl W. and Others.— You do not need forms for attaching to your prints sent in for competition in the Round

Robin Guild contests. Mark each picture plainly on the back with the title, and your own name and address, and further state for which competition the picture is intended. We receive a great many pictures and many *unmounted* ones, though the rules say strictly and plainly that all pictures must be mounted. No picture should be sent without being plainly marked whence it came.

T. E. K. — You can buy freshly salted paper of any dealer in photographic supplies, and you will find it far more desirable to buy the paper already prepared, though it is not a difficult matter to salt the paper.

D. S. K. — A "Powell Print" is a blue-print which has been submitted to a bleaching and toning process, and was the result of experiments of Mr. Samuel Powell. The process is almost too long to quote in the limited space of our answers, but briefly stated consists in discharging the color of the blue-print by placing it in a solution which will remove the color of the print, but still leave the image. The chemical used may be one of several sodas, such as carbonate, bicarbonate, etc. The toning bath is composed of a solution of pyrogallic, gallic, or an acid which produces a reaction of the salts of iron left in the print, and turns the image to a pleasing brown.

Edward Hyde. — Yes, you can use a spoiled film as well as a glass plate for making blue transparencies. Treat in the same way as for spoiled plates, removing the blackened silver salts and sensitizing the gelatine coating with the blue-print solution. The only objection to the film transparency is that it requires enclosing in double glasses, whereas the glass transparency simply requires a cover for the film, or it may be mounted and used without covering.

E. L. —Try tank development for your negatives which are underexposed. The developer works slowly and will bring out the detail and give time for the shadows to develop well. The plates can remain in the tank over night without danger of overdevelopment.

Frank Lewis. — To remove the yellow stain from your negatives, soak them in a solution made of $\frac{1}{8}$ oz. of powdered alum dissolved in 20 oz. of water, and to it add 1 drachm of sulphuric acid. Be very careful in handling the acid. It is a powerful poison, and burns the skin badly if it touches it.

Anna R. — Print your pictures from weak negatives through a yellow glass, and slowly, and the picture will be found of a much better tone than when printed in the direct sunlight.

Arnold J. — The solution for blue transparencies is the same as that used for blue-prints. To judge of the correct time of printing, make a blue-print on paper and note the length of time required for making a vigorous blue-print, and expose the transparency for the same length of time. One can also coat porcelain plates with the solution, first preparing the plate with a gelatine film.

F. G. K. — An ink for writing titles or descriptive matter on the dark or shadowed parts of a photograph is made by taking $2\frac{1}{2}$ oz. of potassium iodide, 6 oz. of water, $\frac{1}{4}$ oz. of iodine, and $\frac{1}{4}$ oz. of gum arabic. Dissolve the gum in the water by heat, strain and add the chemicals. Keep tightly corked, and shake the solution well before using.

Harold L. — You may obtain sepia tones on Aristo paper by using platinum toning solution. A good formula is made as follows: Potassium chloro-platinite, $7\frac{1}{2}$ grains; citric acid, $\frac{1}{8}$ oz.; chloride of sodium, $\frac{1}{8}$ oz.; water, 30 oz. Wash the prints in several changes of water to remove the free silver. Place in the toning bath, and tone until a dark brown color; then place them without previous washing in a bath made of carbonate of soda, $\frac{1}{4}$ oz.; water, 10 oz. Leave them in this bath three minutes; wash well and dry.

Flora S. — Prints made on silk or cotton sensitized with blue-print solution are finished in the same way as the blue-print — simply developed in clear water, then laid in the sun for a few minutes to increase the brilliancy, washed, and dried. In pressing the fabric do not use too hot an iron.

The Crucible

TONING TABLE

Compiled for Ready Reference by H. J. J.

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Water............oz.	15	10	10	5	20	5	10	10	15	20	8	10	18	10	10		16
Gold Chloride.....gr.	1	1	1	1	2	1	1	1	1	4	1	1	1	1	1	1	2
Acetate of Soda.... "	30	..	..	1	..	..	..	..	..	60	..	..	..	..	15	10	..
Bicarb. of Soda.... "	..	30	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Bicarb. Potash..... "	..	..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Borax............ "	..	..	..	25	..	..	..	..	30	..	..	..	..	..	..	..	..
Formate of Soda... "	..	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	..
Phosphate of Soda. "	..	..	..	..	..	15	..	..	..	..	..	..	24	..	..	..	..
Tungstate of Soda.. "	..	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	..
Sulph. Cyan. Am.. "	..	..	..	..	..	..	..	10	..	45	8	10	..	..	..	..	..
Chalk............ "	..	..	..	..	..	..	..	..	..	..	..	..	..	10	..	..	20
Chloride of Lime.. "	..	..	..	..	..	..	..	..	..	..	..	..	..	1½	..	..	1
Salt.............. "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	..	
Lime Water.......oz.	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	5	
Sulphite of Soda...gr.	..	..	..	..	..	..	..	½	..	..	..	..	..	..	..		
Uranium Nitrate... "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1		

TO USE THE TABLE

Select under one of the numbers in the top horizontal column any bath desired and under that number will be found the quantities, and in column on left the names of the substances required to make up the toning bath.

THE TONES OBTAINABLE WITH THESE BATHS ARE

Nos. 1, 4, 7, 9	Brown to Purple	No. 17	Brilliant Black and White
2, 5, 6, 8	Purple	11	Barnet Formula
14	Purple to Black	12	Ilford Formula
15	Fine Black	3	Ingall's Formula
14	Purple to Black, splendid		

Numbers 1 to 13 are recommended for toning P. O. P.
" 1 to 7 and 14 to 17 are recommended for toning Albumen Paper.

— *Australian Photographic Journal.*

BRILLIANT PLATINUM AND BROMIDE PRINTS

It is a well-known fact that platinum and bromide prints, especially those on rough-surface paper, frequently present a flat, sunken-in appearance when dry, which is far from pleasing. Many methods have been suggested for remedying this, such as the use of a thin solution of gelatine, encaustic cerate, negative varnish, or shellac solution. Perhaps one of the best, most easily applied, and least messy preparations, which will increase the brilliancy of the entire print and improve the depth of the shadows without imparting a glaze, is the artist's megilp for oil painting. Apply this by saturating a tuft of cotton and rubbing it on the print. The solution soon dries and improves things wonderfully.

The chief disadvantage of varnishing platinum prints is that it frequently gives a yellow tinge to the whites. Valenta recently recommended a formula to obviate this, and we quote it from *Photographische Korrespondenz:* —

Sandarac	1 oz.
Benzole	4 "
Acetone	4 "
Absolute alcohol	2 "

The print may be immersed, or the solution may be painted over it, and when the excess has been removed with blotting paper, the print may be dried as usual.

If negatives are too thin to give rich platinum prints with good contrasts, print as usual and develop in the following developer: —

Neutral potassium oxalate	2 oz.
Water	20 "
Potassium nitrite	1½ grains
Potassium phosphate	½ oz.

If the negative is very thin or excessive contrasts are desired, then the quantity of nitrite may be increased. Note that nitr*ite* and not nitrate of potash must be used.

INCREASING THE RANGE OF GRADATION OF NEGATIVES

A RECENT issue of the English *Amateur Photographer* contains a very interesting article by Winthrope Sommerville, in which he suggests a simple method of increasing the range of gradation of negatives. By immersing the exposed plate or film in this solution for half a minute previous to development, the worker may obtain a soft, well-graded negative from what would otherwise be a hard one. The solution is as follows: —

Copper sulphate	1 grain
Potassium persulphate	2 grains
Nitric acid	5 min.
Water	4 oz.

Regarding its use, Mr. Sommerville says: —

"Immersion in this solution for the space of half a minute with an after-rinse, previous to development, is quite sufficient to produce the maximum effect. With regard to the different developers, I have tried ten distinct varieties — metol, metol-hydroquinone, hydroquinone (quinol), adurol, ortol, eikonogen, pyro-soda, pyro-metol, rodinal, and amidol. In *all cases the total effect* was precisely the same, but the manner of its production was different in three instances, which instances may be made quite relative to what are practically the three types of developing reagents. In other words, the manner of the production of the effect was the same with developers of the soft type, *i.e.*, metol, pyro-metol, rodinal, etc., which are rapid and produce detail before density; with those of the medium type, *i.e.*, adurol, ortol, eikonogen; with those of the hard type, *i.e.*, hydrokinone, pyro-soda, etc.

"While the harder developers are the cleanest working, workers should not mistake the flattening of contrasts and consequent softness for fog or veiling, otherwise, if they stop development too soon on this account, they will find the negative too thin on removal from the fixing bath. It is, of course, amenable to control, either by diluting the bath or adding small amounts of bromide to the developer."

GLYCERINE DEVELOPMENT OF BROMIDE PRINTS

THE glycerine method of local development, so frequently employed in making vignetted platinum prints, may be made use of in developing bromide and gaslight papers. Mop the exposed print over with glycerine and apply the developer with a soft brush as taste dictates. Continue to apply and blot off until the print is finished. The best results are usually obtained when the developer is diluted with an equal amount of glycerine, rather than used full strength. As there is no visible image, the print must first be marked. Remove the back of the printing frame, and, holding the paper firmly, hold the negative up to the yellow light, and roughly sketch the outline of the proposed vignette in fairly bold pencil marks. Then hold the print up to the light and sketch lightly on the front the marks made on the back. These guiding marks may be very readily removed with a soft rubber eraser when the print is finished and dry.

SAVE NIAGARA FALLS

For some years back the national government, as well as the New York state government, has tried its best to save the water at Niagara Falls as one of the great wonders of the world. Desiring to contribute, in a modest way, to this praiseworthy and patriotic undertaking, the Photo-Era is prompted to offer a few timely suggestions to the delegates of the National Convention of the Photographers' Association of America, to be held there August 7, 8, 9 and 10, when the safety of the great cataract will be menaced more seriously than ever before in its history.

When asked to use the Falls for drinking purposes, answer only in the negative, and bathe, if you must, in spirit only.

Do not use Falls water in any case except for fire, and then only sparingly.

Take your fire water and pictures undiluted; use plates or films, but do not mar the beauty of the Falls by drinking in the scene too copiously.

Remember that it is a criminal offense for visitors to carry home phials of the Falls water as convention souvenirs.

If, through force of habit, or for any other reason you must have water, why, catch the water as it falls over the Falls, but empty it back into the Niagara River again, as to drink it, under any circumstances, would be a sacrifice for the convention.

Be positive, in mixing the customary beverages, not to use the precious Falls water in the developers. Reduce, if you will, and intensify, if you must, but don't get gay with the whirlpool rapids, whatever else you do.

If, disappointed in attaining to the coveted offices of President, Treasurer, or Secretary of the P. A. of A., and you want to shuffle off this mortal coil, do not pollute the sacred waters by drowning, but fill up on shredded wheat and carborundum. You will then be too ashamed to die, but live to tell the tale of how the convention saved Niagara Falls.

A CELEBRITY

"I hear tell," said the caller, "that you keep photygrafts of all the prominent men."

"Yes, sir," replied the dealer.

"Wall, I'm Hon. Jason Gosch, mayor of Billville, Ohio. Lemme see one o' mine." — *Philadelphia Press.*

REPAIRS NEEDED

A lunatic asylum keeper in an eastern watering place not far from Newport, R. I., was showing the regulation inquisitive visitor about the plant. A large room with about thirty cots was reached, but the place seemed empty.

"This is where the crazy chauffeurs are kept," said the keeper.

"Oh, is it," asked the visitor, "but where are they?"

The guide replied: "Well, you can't see 'em. They're all under the beds examining the springs." — *New York Sun.*

NO ESCAPING TOLLS

On one of the old turnpikes yet remaining in the South, a big touring car had twice rushed through the gate without paying toll. The third time they made the attempt the negro tollman shut his gate and brought them to a stand. Indignantly, the six occupants of the car declared they were entitled to ride free.

"Look at your own board," said the spokesman. "It says, 'Every carriage, cart, or wagon drawn by one beast, two cents; every additional beast, two cents.' We're not drawn by any beast at all."

"No, but here's where ye come in, sah," replied the darkey, pointing to another clause, as follows: "Every half-dozen hogs, four cents." "An' three times four is twelve," he added.

The twelve cents was paid. — *Harper's Weekly.*

SUMMARY OF THE ANNUAL MEETING OF THE AMERICAN FEDERATION OF PHOTOGRAPHIC SOCIETIES, HELD IN NEW YORK CITY, MARCH 21, 1906

SOCIETIES represented in person: Boston Camera Club, Columbia Photographic Society of Philadelphia, Metropolitan Camera Club, Philadelphia Art Club, Pittsburg Academy of Science and Art (Photographic Section), Providence Camera Club and The Salon Club of America.

Treasurer reported: —

Balance on hand March 22, 1905	$ 110.62
Receipts	1545.25
Expenditures	1430.31
Balance on hand March 21, 1906	225.56

The following resolutions were adopted:

The Third American Salon to be conducted under the same rules and jury system of selecting and judging entries as governed the Second Salon.

Instead of providing a purchase fund of $100.00 for the best picture in the exhibition, the Federation shall purchase three pictures, to be selected by the Artist Jury, at double the catalogue prices; the total not to exceed $200.00.

The lantern slide interchange and competition to be discontinued for the present.

The offer of a purchase fund by the Landmark Publishing Co. for the negatives of two outdoor rural scenes at $75.00 and $25.00 each, to be selected by the Artist Jury, was accepted.

Resignations of President Bell and Secretary Knox were presented and accepted with a vote of appreciation of their able and efficient conduct of the respective offices.

The following officers were elected for the term of two years beginning July 1, 1906, the President for the unexpired term in addition.

President	Geo. T. Power
First Vice-President	R. L. Sleeth, Jr.
Second Vice-President	Chas. E. Fairman
Third Vice-President	Adolph Petzold
Treasurer	John H. Thurston
Salon Director	Louis Fleckenstein
Historian	Daniel Baker

The President has the appointment of a Secretary for the new and unexpired terms.

S. C. BULLENKAMP,
Acting Secretary.

NIAGARA FALLS CONVENTION PHOTOGRAPHERS' ASSOCIATION OF AMERICA

A REPORT having been circulated to the effect that Niagara Falls could not properly care for our National Association, I take this method to refute same.

When the Executive Board was called for its annual meeting, there was some question as to where it would be held, owing to a recent fire, which destroyed two of Niagara's hotels. Your Board found, upon fullest investigation, that the loss of these two houses could make no material change in our plans, as the remaining hotels and private rooms were abundantly able to care for a convention *double the magnitude of the Photographers' Association of America.*

However, the ruins are being cleared and a new and more modern Imperial Hotel will replace the old one before the date of our Annual Convention. We have secured such rates that there can be no question of fairness or the old cry of Niagara graft raised, *which your Board very carefully sifted, and found no just cause for complaint on that score.*

The official headquarters, Cataract-International Hotel, have made us most liberal rates. $3.00 to $5.00 per day, American plan. The latter rate includes private bath, and about one hundred rooms at $3.00, American plan, is certainly so reasonable that you cannot afford to stay at home or away from headquarters.

Other first-class hotels have made the following rates: The Clifton (American side), $2.50, American plan; Tower Hotel, $2.50, American plan; Empire Hotel, $2.00, American plan; Temperance House, $1.50, American plan; Temperance Annex, $2.00, American plan. Also a large number of rooms in private homes, 50 cents up.

You will wish to see the wonders of the Falls, which can be thoroughly done under $3.00. The leading points of interest being: The Gorge Trip, $1.00; Cave of the Winds, $1.00; Maid of the Mist, 50 cents; Reservation and Island drive, 15 cents; Down the Incline, 10 cents. Should you desire the use of a carriage or hack, the fee is but $1.00 per hour, as reasonable as prevails in any American city. In addition, special rates will be made for trips to Toronto and the Thousand Islands. Buffalo, but twenty-three miles distant, is reached by train or trolley, at 50 cents for the round trip.

These facts and figures should refute all claims of graft, and you may be assured that your trip to the Niagara Falls Convention will be one of small expense and large returns for the money invested.

Everything considered, your Board are of the unanimous opinion that Niagara Falls will live in our history as the most ideal place to which we have been sent. The magnificent scenery and the social life to be enjoyed in our being called together for a full week, the untold value to our financial success in attending a convention planned as educational in a business sense, as well as a fine Art display, indicate that it will do you great good and be of lasting benefit in the future conduct of the business end of your profession.

FRANK W. MEDLAR,
Secretary.

WHEN Fritz Steinbach, the conductor of the famous Gürzenich Orchestra of Cologne, arrived in Boston, *en route* to New York, last month, he accepted an invitation to sit for his portrait at the Garo Studio. The eminent musician expressed himself as greatly pleased with the results, considering the "Garographs" of himself as the best photographs he has ever had taken.

CALIFORNIA PHOTOGRAPHERS' RELIEF FUND

An Urgent Appeal to Every Photographer in the Country

THE PHOTO-ERA PUBLISHES THE FOLLOWING BY REQUEST¹

INASMUCH as there will undoubtedly be much suffering and deprivation on the part of the California photographers by reason of the recent disaster, it seems proper that the fraternity all over the country should hasten to relieve their distress.

To that end an Emergency Committee was appointed by the Chairman of the Metropolitan Section of the Professional Photographers' Society of New York, which met at the studio of Mr. Falk and organized the "California Photographers' Relief Committee."

It was decided to start a National Fund by a popular $5.00 subscription, and to *invite the cooperation of every photographer of the country.*

The purpose of this fund is to assist in reestablishing our unfortunate brothers in business at the earliest possible moment.

The Metropolitan Section has raised $[illegible]50.00 from the Photographers of Greater New York within twenty-four hours, and the Albany Section P. P. S. of New York has agreed to contribute a minimum of $200.00.

Please send your check TO-DAY to Joseph Byron, Treasurer California Relief Committee, 53 West 32d St., New York City.

B. J. FALK,
THEO. C. MARCEAU,
E. B. CORE,
PIRIE MACDONALD,
T. G. GESSFORD,
A. F. BRADLEY,
F. E. BAKER,
JOSEPH BYRON, *Treasurer,*
CURTIS BELL, *Secretary,*
Committee.

OWING to a grave error credit was not given for the charming flower studies which illustrated "An Easter Song" in our April issue. These dainty decorative pictures were the work of George E. Starr whose productions along these lines are always far above the mediocre.

At the regular monthly meeting of the Harvard Camera Club on March 26, a delightful informal talk on "Art in Photography" was given by Mr. Joseph Linden Smith. The largest attendance of the year made a very appreciative audience, and the interest was so great that Mr. Smith was persuaded to tell of many of his experiences in Turkey, holding the members spellbound until a late hour. Refreshments were then served.

It was announced that Wisconsin, Dartmouth and Michigan are to take part in the Intercollegiate Exhibit this spring, a permanent Intercollegiate Association having been formed through the energetic work of Maurice T. Fleisher, President of the Camera Club of the University of Pennsylvania. The Constitution, which had been ratified by Harvard, was discussed in an informal way. It is hoped that next year a still larger number of colleges may be represented.

Lens and Brush Club Dinner

A fine complimentary dinner and reception was tendered E. S. Curtis of Seattle, the well-known photographer of Indian life, by the Lens and Brush Club of Boston, on Saturday, April 7, at the Copley Square Hotel of that city. The menu was as follows: —

Moki Bluepoints
Consommé Indienne
Cheyenne Olives   Apaché Radishes
Broiled Savannah Shad Maitre-d'Hotel
Potatoes à la Parisienne   Salade des Concombres
Filet de Bœuf aux Champignons
Potatoes à la Duchesse   Petits Pois
Nez Percé Ice Cream
Pueblo Cakes
Flat Head Cheese   Crow Cheese
Blackfeet Coffee
Ogalalla Sioux Cigars

Nearly a hundred members with invited guests from Harvard University, the Massachusetts Institute of Technology, the Photographers' Association of New England, the St. Botolph Club and the Lens and Brush Club were present to do honor to the distinguished guest of the evening. The President of the Lens and Brush Club, Mr. E. G. Merrill of Salem, presided, and Thomas Harrison Cummings, Editor of the Photo-Era, was Toastmaster. Speeches were made by Chas. W. Hearn, President of the P. A. of A., Professor Farrabee of Harvard University, Morris Burke Parkinson, H. J. Collings of the Eastman Kodak Co., and Wilfred A. French. At the close, Mr. Curtis, the guest of the evening, gave a stereopticon lecture on the American Indian, which was the finest lantern-slide exhibition ever given in this city. A rising vote of thanks, three cheers and a tiger was the Lens and Brush salute to speed their parting guest, who acknowledged that the memory of this evening would linger long among his choicest souvenirs.

On page 331 of this issue is an article entitled "A Tour of the Berkshires," which may suggest vacation possibilities to those of our readers who have not yet made their plans for the summer. If interested in this charming region, we advise sending to the Boston & Albany Railroad for a copy of "Summer Homes along the Boston & Albany." This attractively illustrated booklet details the interesting features of the towns along this beautiful line of railroad, and in addition contains a complete list of hotels and private homes in all of these towns where accommodations may be had. Location, distances, prices and full information are given in every case. A copy of this booklet may be obtained by any one who is interested in this beautiful locality and cares to make application to A. S. Hanson, General Passenger Agent, South Station, Boston, Mass.

From Rochester, N. Y., the "Kodak City," we have received the Eastman catalogue of kodaks and supplies for 1906. As attractive as its predecessors, this catalogue presents clearly and concisely the achievements of the Eastman Kodak Company in perfecting and simplifying the hand camera and other photographic accessories for the needs and convenience of the amateur. Cameras for many kinds of work are described in this interesting booklet, and a careful consideration of their ease of manipulation, manifold adjustments and compact form make it seem as if the hand camera had reached a state of perfection which it were difficult to excel.

The latest addition to the kodak family, the 4A Folding Kodak, is constructed along the lines of the 3A, but the size has been increased to 4¼ x 6½. For the traveler this size is ideal; in landscape work it affords great scope for the composition of the picture, when used either vertically or horizontally; while the proportion is especially desirable for home portraiture. Notwithstanding the large size picture it takes, the instrument when closed measures only 2⅝ inches in thickness. Films or plates may be used, and the Automatic Focusing Lock, an ingenious appliance which makes accurate focusing simplicity itself, is also a feature, as is the fine optical equipment. The 1906 catalogue will be sent to any address upon request.

Mr. Percival Carmichael of 13½ Bromfield St., Boston, informs us that the demand for high-grade outfits during the past year has exceeded his most sanguine expectations. The call for Goerz lenses is such that it is impossible to obtain them fast enough from the manufacturer, while he expects to do a big business with the new Goerz Anschutz Cameras.

His store is well worth a visit, and it will pay any one who is thinking of purchasing a first-class outfit, to either call and see or write him, before purchasing elsewhere.

He attributes his success to the fact that he always allows a customer, buying an outfit, at least a month's trial, and if not suitable is willing to refund the money or exchange it. His one aim is to give satisfaction, and we have no hesitation in recommending him to any one. The manner in which he has mounted the business ladder during the past few years will speak for itself, while his methods and business abilities cannot fail to bring him the profoundest respect from his friends and customers.

From the Rochester Optical Company, Rochester, N. Y., we have just received the annual catalogue of Premo cameras, an attractive booklet which will be sent to any address on request. It describes a line of cameras which meets every requirement of the photographer, whether his interest in the art be commercial or for pleasure and a love of the work. While the workmanship and finish of these instruments is superfine and "Premo Superiority" is much in evidence, yet there is no useless expenditure on unnecessary luxury or useless attachments, and the prices are in every case reasonable. The Film Pack has proved so popular that its use has been continued and is one of the special features of the firm's output. We note with pleasure the new Film plate Premo; a pocket camera, in sizes 3¼ x 4¼, 3¼ x 5½ and 4 x 5, which takes films or plates with equal facility, permits sharp focusing of either on the ground glass without special adjustments, and whether plates or films are used, one or more exposures may be removed for development at any time. These features allow the amateur to enjoy the convenience of films for touring and the cheapness of plates for work about home. Another camera which deserves more than passing notice from the worker and which reflects great credit upon its makers, is the Reflecting

Premo. Space does not permit us to go into details, but the Premo catalogue will tell you all about it.

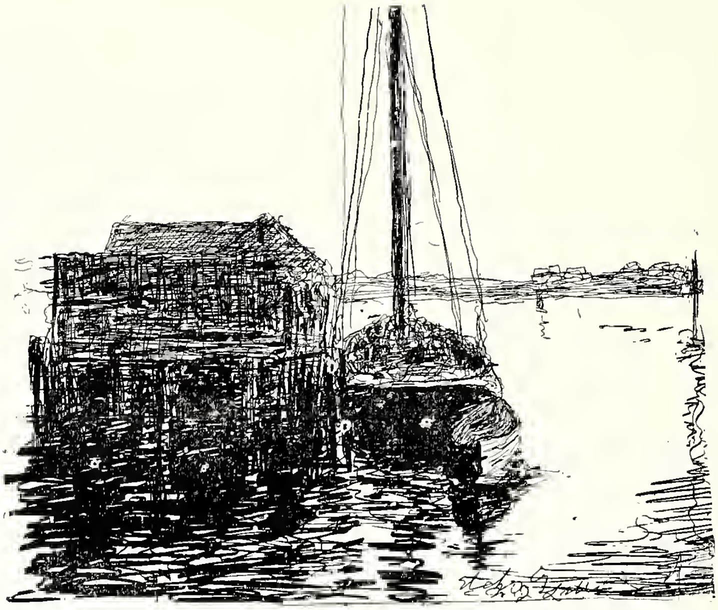
The excellent portrait of Wilhelm Gericke, which appears in this issue of the Photo-Era, is contributed by the Brookline Art Union. This well-known and highly successful studio is operated by Miss Nellie J. Hall, the original proprietor, and Frank R. Barrows, the popular and faithful treasurer of the Photographers' Association of America, the latter attending to the sittings and the technical side of the business. The prosperity of the concern, its high-toned business methods and the eminently artistic quality of its products, speak well for the sagacity, prudence and taste of Miss Hall. Our portrait of Mr. Gericke was expressly made for the Photo-Era and has never before been published.

Every up-to-date photographer, whether amateur or professional, will be interested in the new catalogue of the Seneca Camera Mfg. Company of Rochester, N. Y. It is a most attractively designed and well printed booklet, and contains several new features in addition to what had previously seemed a complete line of fine photographic apparatus. Two new cameras of which the amateur and tourist have long felt the need are the Long Focus Pocket Cameras No. 32 and No. 33, finished in ebony with nickel-plated trimmings. The low price at which these instruments are offered will make them doubly popular. We also note the addition of a bellows support to the equipment of the New Improved Seneca View Camera which automatically stretches the bellows and absolutely prevents cutting off the plate — a common fault in view cameras. Another important feature is the Seneca Adjustable Plate Holder, which permits plates of smaller dimensions to be used than your camera would otherwise accommodate. The regular equipment of the Seneca Folding Plate Cameras and New Improved Outfits, up to and including the 8 x 10 size, is supplied with one of these holders without extra charge. A booklet will be mailed to any of our readers upon request.

The Photo-Club of Paris, France, announces its eleventh International Photographic Salon, to be held from June 9 to July 1 inclusive, at the Palais de Glaces, in the Champs Elysées. The regulations do not appear to be as severe as heretofore, when little encouragement to exhibit was given except to members of the Linked Ring. It was probably found that a broad and liberal policy towards contributors was the only thing to ensure the prosperity and influence of the Photo-Club and to justify, in a measure, its assumption of being the leading photographic organization in France. The usual rules governing a photographic exhibition prevail and, as the facilities for advantageously displaying a large collection of prints are of the best, there is no doubt that the Photographic Salon in Paris this year will be a pronounced success.

In our March issue we published an article entitled "Composition and the Photographic Art," which at the time we thought to be from the pen of Richard Hines, Jr., but which we now discover was written by Matt. Stratton, an old contributor to Photo-Era, to whom we are indebted for several articles of great merit, and we wish to give Mr. Stratton full credit for an excellent manuscript on the art side of photography.

The sixteenth annual exhibition of the Brooklyn Institute of Arts and Sciences, Department of Photography, will be held at the art rooms, 174 Montague St., from May 1 to 5 inclusive. The hours are 3 to 6 and 7.30 to 10 p.m., and all who can should view the exhibition.



ETCHOGRAPH BY W. JAY LITTLE BOATS AT WHARF, GLOUCESTER

THE easiest way to make post cards is by means of the Etchograph paper plates, which can be used to transfer direct, the same as impression paper. Beautiful red chalk effects can be made without printing. A special sample outfit for young people will be sent upon receipt of 25 cents. The outfit contains six Etchograph transparent orange paper plates, post card sizes, 3½ x 5½ inches, from which any number of pictures can be printed on post cards or any photograph paper, day or night. Several pictures can be made on the same plate if small subjects are chosen; six sheets of brown print paper already sensitized to print in sun from the Etchograph plates after you have traced the picture; one needle to etch the plate and one stopping-out color to correct mistakes; ten post card sketches, and full directions.

Use your own photograph printing-frame to hold the plates while etching or printing.

THE Indiana Photographic Art League will hold its annual convention at Muncie on May 8 and 9. A most interesting and instructive program has been announced, and the two days promise to be both enjoyable and beneficial to all who attend. The organization stands for originality and individuality as factors in art by photography; its purpose being, primarily, to encourage the spirit of the genius within the grafter, that he who has an ideal may seek to know its merits, and he who may not so largely be gifted with the talent may endeavor to raise his standard; that as photographers they may merit a larger compensation for their labors and loves.

Secondarily, to elevate the profession and more fully enlighten the public in the knowledge of photography as an art. To exemplify more fully its values in civilization, education and commerce. To elevate photography to a higher standard in the fine arts.

PHOTO-ERA THE AMERICAN JOURNAL OF PHOTOGRAPHY

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Contributions relating to photography in any and all of its branches will receive our careful consideration. While not accepting responsibility for unsolicited contributions, we will endeavor to return them if not available, provided return postage is enclosed.

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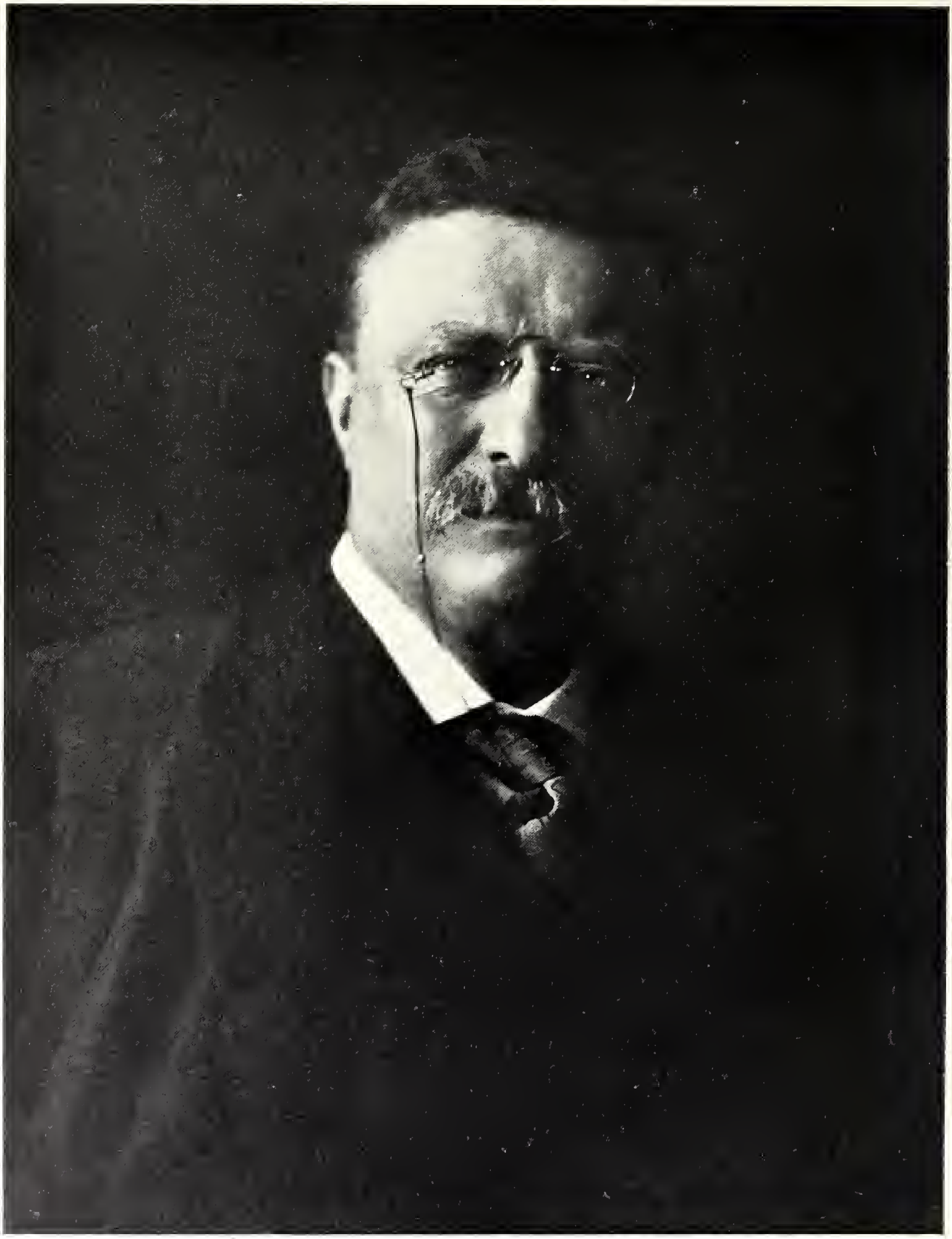


E. S. CURTIS
THEODORE ROOSEVELT
PRESIDENT OF THE UNITED STATES

PHOTO - ERA

The American Journal of Photography

VOL. XVI JUNE, 1906 No. 6

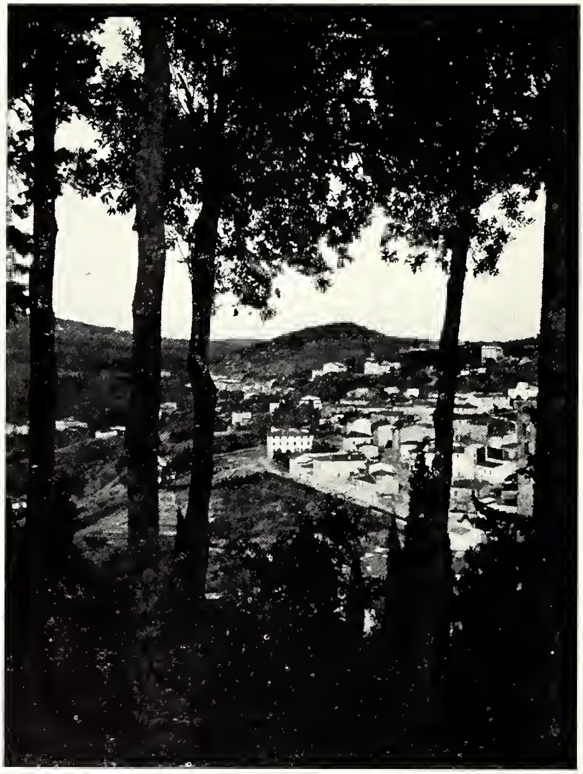
F. L. OLMSTED, JR. HARVARD CAMERA CLUB
ARCHITECTURAL DETAIL STUDY—A VENETIAN ENTRANCE

THE INTERCOLLEGIATE EXHIBITIONS

MALCOLM DEAN MILLER, M. D.

President Harvard Camera Club, 1903–1905

WHEN, in the fall of 1900, the many vague plans for sometime having an Intercollegiate Exhibition between the camera clubs of the leading American Universities first took definite shape with the acceptance by Pennsy of the challenge of the Harvard Camera Club, the editor of PHOTO-ERA was one of the most interested helpers. This interest, with many practical demonstrations of its power to further the project, has been steadily maintained, so that to-day, when the Exhibition is entering a new and greatly enlarged field, it is to PHOTO-ERA that we



GEO. W. OUTERBRIDGE, HARVARD FIESOLE
Honorable Mention, Intercollegiate Exhibition, 1904

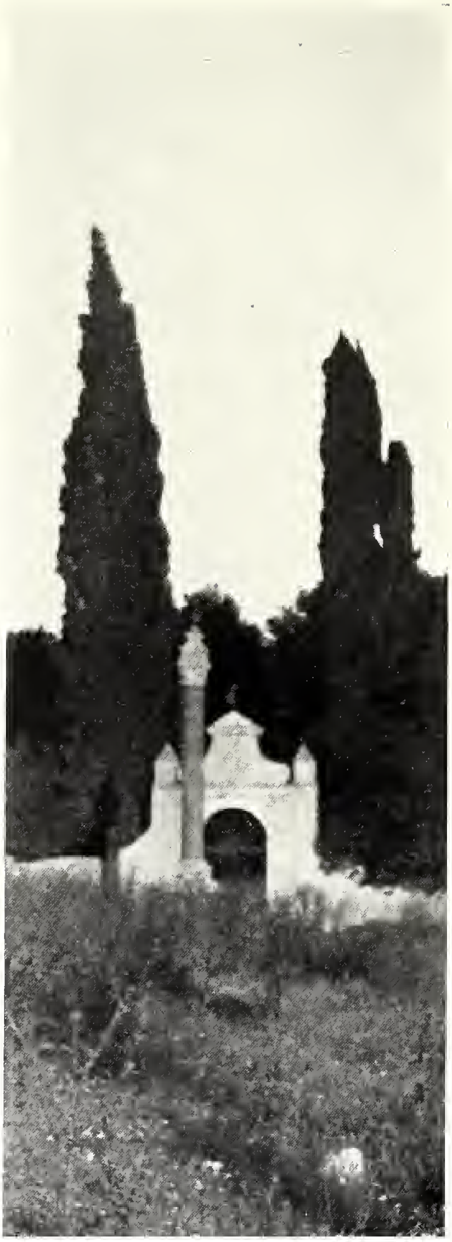
naturally turn in order to gain the attention of the photographic world. For we stand to-day, thanks to Mr. Cummings, in a position to demand a share of public consideration, with a permanent organization effected and the future holding out a prospect of at least six or eight universities annually taking part in the event. Many attempts had been made to induce other colleges than Harvard and Pennsy to come in, but always without success until Mr. Fleisher, the President of the Camera Club of the University of Pennsylvania, acting with the help of Photo-Era, succeeded in bringing Dartmouth and Wisconsin into this year's Exhibition and secured the ratification of a constitution for perpetuating the machinery necessary for successful working. Thus to Harvard belongs the honor of having originated and to Pennsy of extending the movement.

The Harvard Camera Club in the college year 1900–1901 was fortunate in having a compact body of members who were all enthusiastic and expert photographers, a strong club spirit and the heritage of two remarkably successful years under the inspiring leadership of Walter Babcock Swift. Himself a pupil of H. P. Robinson and an earnest worker, he had the happy faculty of bringing

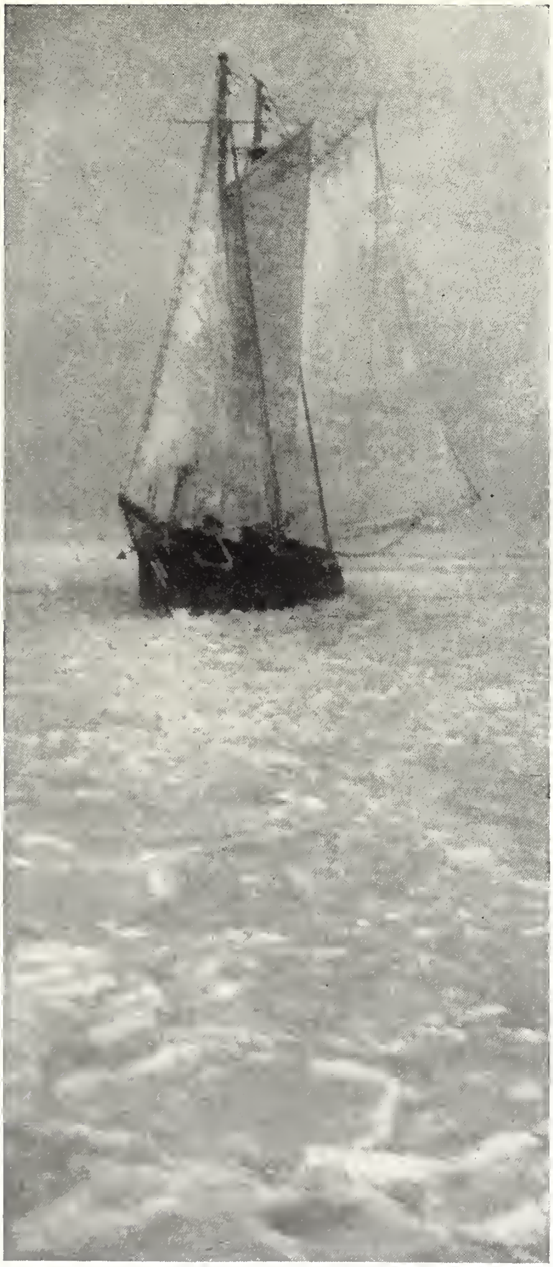
LAYTON B. REGISTER, PENNSYLVANIA LOTUS

Honorable Mention, Intercollegiate Exhibition, 1904

out the best that each member had to offer in the way of pictures, and in helping beginners to realize and make use of their powers. Before an exhibition he was indefatigable, visiting each man in turn and helping him to select and prepare his pictures. No one was allowed to say he had nothing fit to show, for Swift would make him bring out his negatives and spend an evening instructing him in printing, trimming, mounting or whatever was necessary to make promising material fulfil its promise. Naturally such methods bore fruit, and when he resigned the presidential chair to Frederic Bonnet, Jr., there was a splendid organization for the latter to use. Under Mr. Bonnet prosperity continued unabated and the challenge to Pennsy was sent and accepted.



F. L. OLMSTED, JR., HARVARD
WHERE THE DEAD OF A DEAD PAST LIE
Second Prize, Intercollegiate Exhibition, 1903

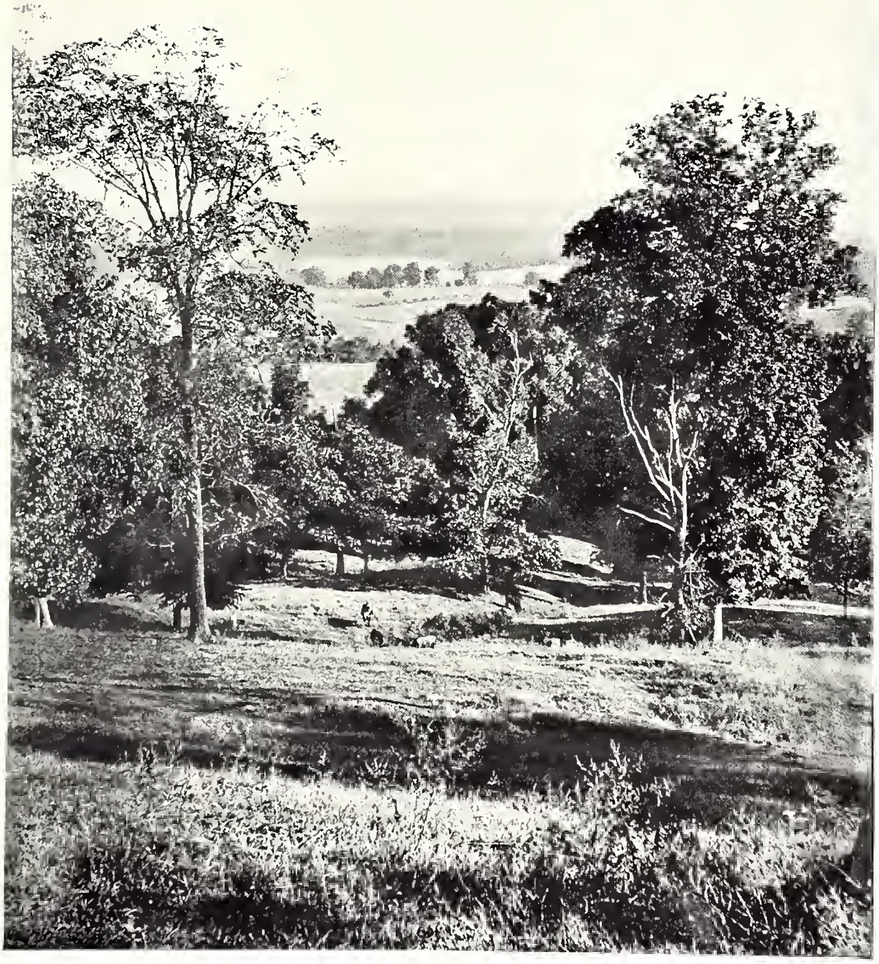


F. L. RICHARDSON, HARVARD
IN THE ICE FLOE
Honorable Mention, Intercollegiate Exhibition, 1904

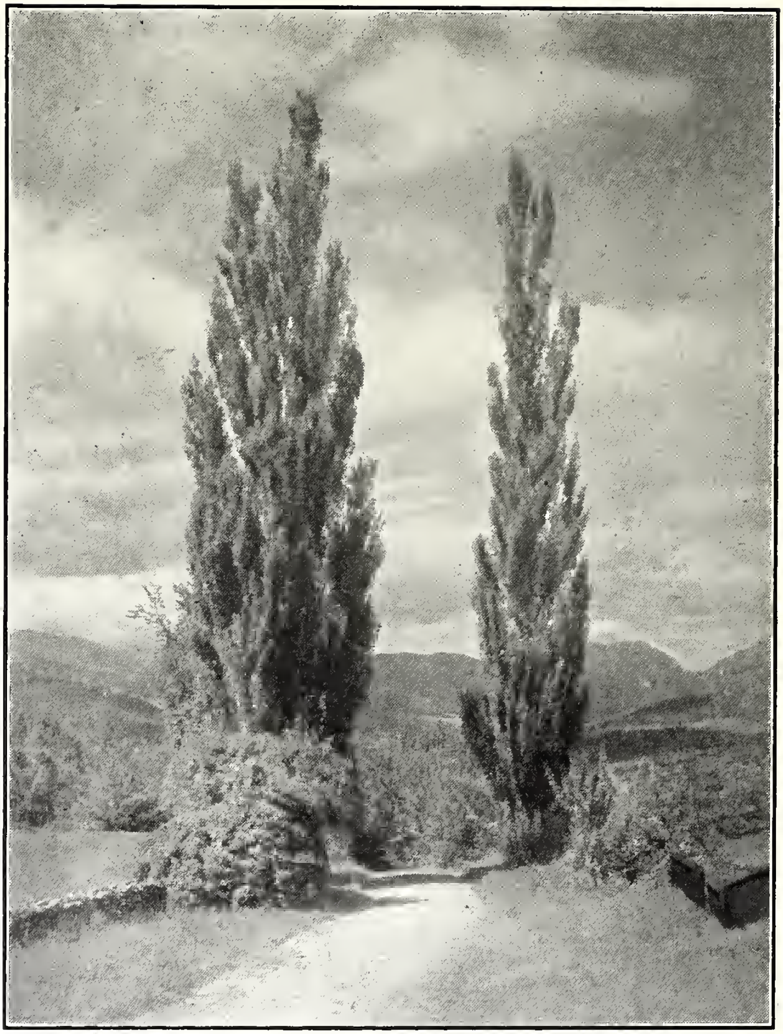
HERBERT S. WELSH, HARVARD — A DUTCH COURTSHIP

Honorable Mention, Intercollegiate Exhibition, 1903

The First Intercollegiate Photographic Exhibition took place in May, 1901. Each club appointed two men as a committee to manage affairs, and these men drew up a rather strict set of rules and appointed three judges in the neutral territory of New York. Fifty pictures from each participant were sent to them for awards, and exhibited first at Philadelphia under the auspices of the Photographic Society of Philadelphia and later at Cambridge in the new Phillips Brooks House. The jury consisted of Mrs. Gertrude Kæsabier, Alfred Stieglitz and George G. Rockwood. Their decisions brought joy to Harvard and such woe to Pennsy that the contest, which had begun with a catalogue stating that it was the "First Annual," was omitted the following year owing to lack of interest in the Quaker City. All the awards, five in number, came to Cambridge. Harvard won the contest, receiving from the three judges a certificate that her fifty pictures were more artistic than Pennsy's. First prize for the best individual picture was awarded to Hiram Hall Rustin for a landscape entitled "Morning" which was reproduced in the catalogue, as well as one of the two Honorable Mentions for a picture of sheep. Mr. Bonnet took second with his "Hemlock Gorge" and the remaining mention went to Henry Ware Eliot, Jr. Although two thousand catalogues were published the attendance at the exhibition was sufficient to ex-



HIRAM HALL RUSTIN, HARVARD
MORNING
First Prize, Intercollegiate Exhibition, 1901



THOMAS W. SEARS, HARVARD
THE POPLARS
First Prize, Intercollegiate Exhibition, 1905

MAURICE T. FLEISHER, PENNSYLVANIA LES CYGNES
SECOND PRIZE, INTERCOLLEGIATE EXHIBITION, 1905

haust the edition, and copies are now so rare that it seems worth while, as a matter of historical record, to enumerate here the names of those who took part. For Harvard, in addition to the winners mentioned above, pictures were shown by Monroe Buckley, Julian Burroughs, Everett Lamont Getchell, William Albert Rorer, Jr., R. W. Shapleigh, A. H. Shearer, Walter Babcock Swift and Herbert Stanley Welsh; in all eleven exhibitors. Strangely enough Pennsy also had eleven, namely, Oswald T. Allis, Herbert S. Bowles, H. Kennedy Hill, Robert H. Ivy, Arthur C. Jackson, Walter M. Mitchell, C. Leonard E. Newland, Frederick Pierce, Layton B. Register, Albert C. Sautter and Charles K. Taylor.

During the year following the first contest, which was consumed in vain correspondence about conditions for the next meeting, resulting in disagreement and the loss of a year, the membership of both clubs changed rather materially. At Philadelphia, indeed, a sort of resting stage was entered into, during which the club merely vegetated without possessing energy enough for new growth. At Cambridge nothing of interest happened outside of the Annual, and when June came almost all of the old men were lost by graduation. In the fall of 1902, armed with a large membership of new men and plenty of courage, the Harvard Camera Club reopened negotiations, and the Quakers having also replenished their list, matters were soon satisfactorily arranged on the same basis that has governed the succeeding contests until this year's enlargement of the field. I remember that the greatest hitch in the diplomatic overtures came over the question of the catalogue, Harvard contending that the profits, if any, should be divided *pro rata* according to the amount of advertising secured by each club; but the point was yielded, and when the division came each club received the princely reward of eighty-eight cents. Another tender point was whether each man be absolutely required to do all his own work on his exhibition pictures. Pennsy at that time had occupied new rooms in the Houston

THEODORE MARSHALL, PENNSYLVANIA   THE DOORWAY
Honorable Mention, Intercollegiate Exhibition, 1905

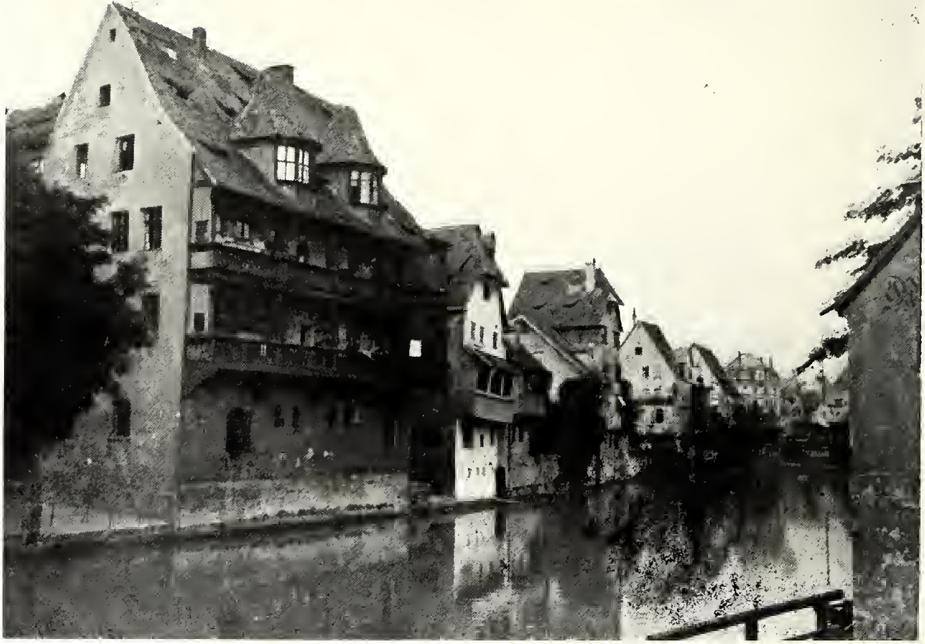
Club, with first-class dark rooms, enlarging apparatus and exhibition facilities in one of the large rooms downstairs, whereas Harvard, thrust forth by the authorities from even the miserable dark room in the basement of Sever Hall which was its sole pretense to club rooms, had to rely on the men doing their work where they could, with the natural result that most of them had to let others "do the rest" for them. Harvard, therefore, insisted on the following rule: "The composition and exposure of each picture must be entirely the work of the exhibitor. He may have all the rest of the work done; in case of a tie, however, preference will be given to the man who has done his own work."

All vexed questions having been settled, the pictures were submitted in Philadelphia to Messrs. Edmund Stirling, Henry Troth and Robert S. Redfield, and it was Pennsy's turn to rejoice. They won the contest, and left only the second prize and one mention for Harvard men. First went to C. Leonard E. Newland, whose picture "Evening" was unquestionably the finest thing in the 1903 exhibit, if not, indeed, of any. The print was a sepia of wonderful

MALCOLM D. MILLER
HARVARD CAMERA CLUB
APRIL

beauty, expressing perfectly the mystery of twilight. Ernest L. Carr and William G. Housekeeper took each a mention. Professor Olmsted of Harvard received second for "Where the Dead of a Dead Past Lie," reproduced herewith, and Herbert S. Welsh, then president, received a mention for "A Dutch Courtship."

Each club now having a win to its credit and the conditions being satisfactory, the event came off in 1904 without a hitch, although some delay was occasioned by a rumor that the periodic efforts to get other University Camera Clubs to participate were about to succeed. The Yale Camera Club, for example, was reported as showing unusual activity and as likely to join, but a letter from the secretary soon after informed us that the club had been forced to disband because of lack of interest, another evidence that athletics is the Yale man's only *métier*. Late in April the pictures were put before a jury



GEO. W. OUTERBRIDGE, HARVARD — ALONG THE PEGNITZ, NUREMBERG

Honorable Mention, Intercollegiate Exhibition, 1904

composed entirely of Photo-Secessionists, Miss Mary Devens, Alvin Langdon Coburn and H. A. Hess. Had the rules of the contest not limited the awards, Harvard's victory would have been more sweeping than it was, for the judges wished to give two more mentions than were allowed to Harvard pictures, and requested that they be marked in the catalogue as especially noteworthy. Pennsy, notwithstanding, won second prize (Mr. Fleisher's "Street Scene") and one mention (Layton B. Register's "Lotus"). Extraordinary efforts had been made by the Harvard exhibitors, and the result of careful selection of mounting papers and the mounting by a committee of the officers of all pictures not suitably finished in this respect made the Harvard fifty remarkably effective. Willard C. Greene took first for a beautiful sepia platinum gum-bichromate print called "Early Morning," and his "Daughter of Delilah" was recommended for special award. The mentions were given to Malcolm Dean Miller ("At the Wharf"), George W. Outerbridge ("Fiesole"), F. L. Richardson ("In the Ice Floe") and Holden P. Williams ("On Lake Geneva"). Mr. Outerbridge received the other special recommendation referred to above for "Along the Pegnitz, Nuremberg." Harvard's fifty were divided among sixteen men while Pennsy's came from seven only.

HIRAM HALL RUSTIN, HARVARD SHEEP
Honorable Mention, Intercollegiate Exhibition, 1901

Last year Harvard was the successful club, and won the contest for the best fifty, first prize and two mentions. Although twelve men had pictures in the exhibit, it seemed up to the last minute that fifty could not be obtained without waiving the rule limiting one man to ten, but fortunately some belated exhibits turned up in time to save the day. Mr. Thomas W. Sears received first for "The Poplars" and both the mentions were given to Malcolm Dean Miller ("Fitting for the Banks" and "An Annisquam Lane"). As before, Mr. Fleisher won second prize. His picture, "Les Cygnes," is reproduced here. Three mentions went to Pennsy, Robert S. Ecob's "Foggy Morning," Theodore Marshall's "The Doorway" and J. A. Mason's "In the Inlet" being the winners. The judges were Messrs. C. Yarnall Abbott, Edmund Stirling and J. Horace McFarland.

Immediately after the close of last year's exhibit Mr. Fleisher began to plan for inducing other universities to take part. After a conference with Mr. Cummings of the PHOTO-ERA, he drew up a constitution for the intercollegiate association and entered into correspondence with the clubs of all the colleges east of the Mississippi. Dartmouth and Wisconsin succeeded in getting their pictures before the judges, and Michigan and Illinois would have submitted some had there been more time; but it was impossible to postpone the judging beyond the last of March. Messrs. F. Holland Day, J. H. Garo and Frederick Haven Pratt formed the jury this year, and awarded the prizes under the new rules as follows: —

The best exhibit as a whole, Camera Club of the University of Pennsylvania.

Second best exhibit as a whole, Harvard Camera Club.

First prize: J. A. Mason, University of Pennsylvania, "Over the Hill."

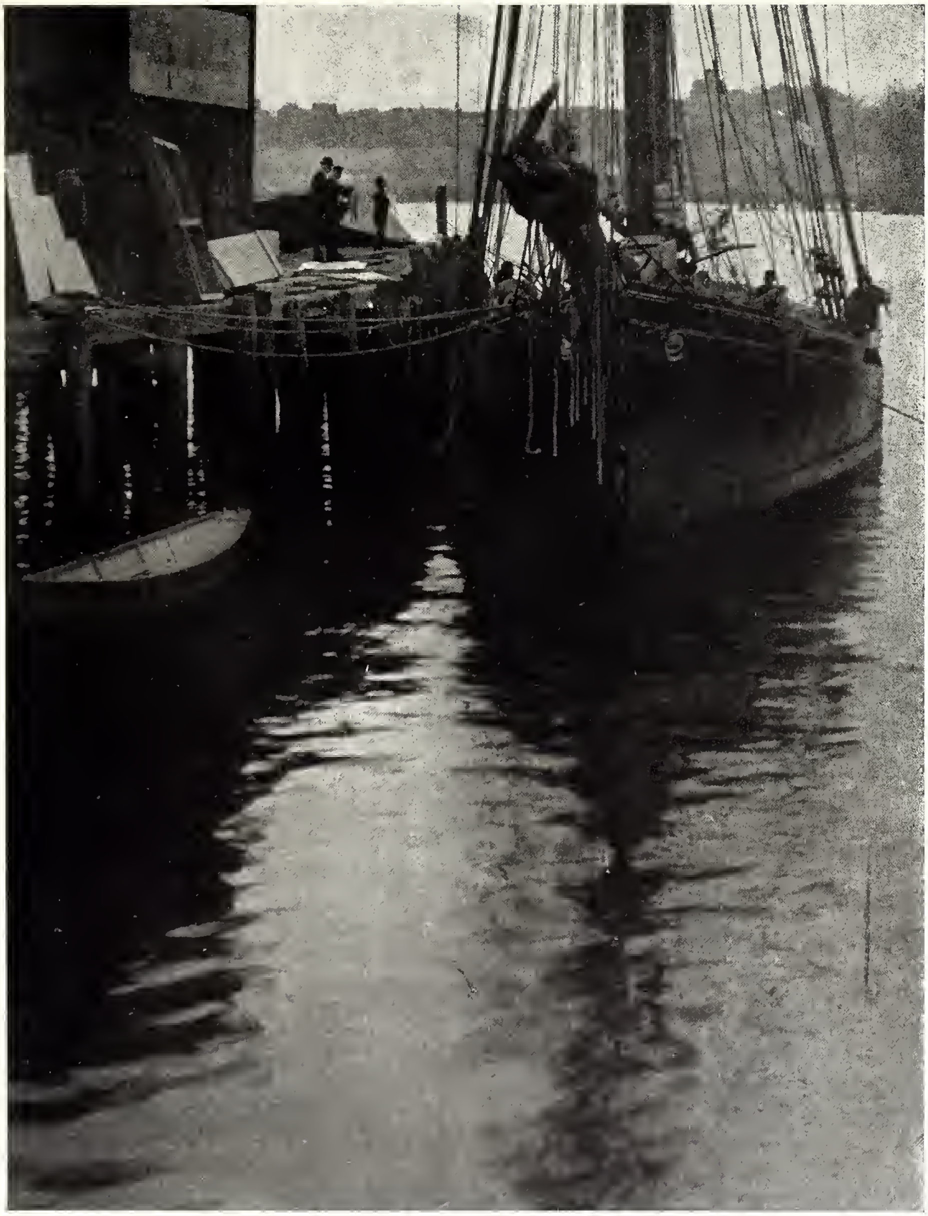
Second prize: Miss Blanchard Harper, Wisconsin, "Evening."

Third prize: E. J. Wendell, 2d, Harvard, "In the Mountains."

Honorable mention: Thomas W. Sears, Harvard, "A Peaceful Morning"; Dana F. Dow, Harvard, "Pines at Echo Bay"; E. H. Greening, Harvard, "Scene in Venice"; S. W. Fernberger, University of Pennsylvania, "The Mission Portico"; Livingston Corson, University of Pennsylvania, "The Head of the Rapids"; M. T. Fleisher, University of Pennsylvania, "A Decorative Design"; B. W. Pond, Dartmouth, "Mer de Glace."

With such a history to demonstrate to the members of other universities the solid qualities of the achievements of the past and with a guarantee of permanence under the newly adopted constitution, which provides for an automatic succession, it is hoped that not only all the universities at present interested but several more will sign, and thus make this intercollegiate contest one of widespread benefit. It should benefit all who take part in it by making them more thorough students of nature and art, stimulating them to do the best that is in them for their own sakes as well as that of their college. It should benefit the camera clubs by giving them a more interesting field and an incentive to work. And it should benefit the art of photography by training in the various preparatory schools a number of young enthusiasts anxious to excel their comrades when they reach college and become eligible to exhibit in this annual event. A training in the seeing and reproducing of the beautiful, such as this will be, cannot help but be useful to individuals and institutions alike.

By the terms of the constitution, Mr. Maurice T. Fleisher of the University of Pennsylvania will fittingly be the President of the Intercollegiate Association as well as of his Camera Club next year. Harvard will care for next year's catalogue and, inasmuch as the same men will be in control, all that is needed to make next year's exhibition a success is for every man in every college camera club east of the Mississippi to begin now to make pictures for it and to see that his club belongs.



MALCOLM D. MILLER, HARVARD
FITTING FOR THE BANKS
Honorable Mention, Intercollegiate Exhibition, 1905

HOLDEN P. WILLIAMS, HARVARD — ON LAKE GENEVA
Honorable Mention, Intercollegiate Exhibition, 1904
ROBERT S. ECOB, PENNSYLVANIA — FOGGY MORNING
Honorable Mention, Intercollegiate Exhibition, 1905

C. S. LUITWIELER
POSTAL PHOTOGRAPHIC CLUB

BREAKING WAVES DASH HIGH

HOW A PHOTOGRAPHIC LENS WORKS

C. H. CLAUDY

WHEN you stop to think about it, the camera and the photographs it makes are about as wonderful things as science has ever produced. Like the telephone and the telegraph, the photograph is a matter of such common knowledge that we are wont to think of it as a matter of course, when in reality, every time we have our pictures taken, we assist at a marvel. And if I was required to state my opinion regarding the most marvelous thing about this marvel, I should unhesitatingly say that the performance of the lens is the most wonderful. Here is a little bit of glass, of peculiar shape — perhaps several little bits stuck together — and a light-proof box with a screen at one end. Point the lens end at any illuminated object and what happens? A perfect image of that object, every part of it reduced to its proper size in a small scale, is seen upon the screen. A painter would take days to produce a similar picture, and then with nothing like the fidelity to nature this image shows, although it is produced in an instant. Moreover, this image is only clearly defined when the screen and the glasses are at a certain distance from each other, and the smaller the lens, in diameter, in proportion to this fixed distance, the more distinctly the image shows, although as the opening in the lens is made smaller — "stopped down," to use a photographic term — it is less and less brilliant.

Now, the most peculiar thing about this wonder, this hand-made marvel-producing piece of glass, is that no one knows the rights of how it works! We have excellent working theories, which seem to fit the facts, and which enable us to make different kinds of lenses with surety and ease; but all the same, no one can say "I know," when the question, "What is light?" is brought up.

CHARLES E. FAIRMAN CARMEN

Filling all space and permeating all matter is supposed to be an impalpable something, capable of transmitting heat and light; this something is called the ether. We know that sound is a phenomena of our ears, caused by the vibrations of air set up by any suitable occurrence, and we believe that sight is a phenomena of our eyes, caused by the impingement of vibrations of ether, which we call light, upon the sensitive retina. In the same way, we know that color, as color, does not exist; colored objects are merely those which have the property of reflecting light vibrations of different intensities, and our eyes have the peculiar ability to differentiate between some of these different intensities, by recognition of them as blue, green, violet, etc. However, although we do not know anything definitely about the ether, we believe in it because we must. Now, all the light which comes to the earth in the daytime comes from the sun (we will neglect the starlight in this discussion). This light is reflected from everything it strikes, and it is these reflected rays we see with our eyes when we say, "I see the object." We do not see the object; cut off the light and we cannot see anything, yet the object is there, and our eyes open. We see the light rays reflected from every point of that object. Every individual

HENRY HALL THE VASE

surface part of that object is reflecting light in all directions. In *all* directions, except behind it or through it, of course. And *every* part of the object is doing this multitudinous reflecting.

Now, suppose we hold a piece of white paper up, say at thirty feet from an object — such as a white fence. The paper receives upon its surface the reflected light from every visible point in that white fence, all over its surface. As each particle of paper surface receives light from each particle of fence surface, the paper seems simply brightly lit. But if by some magic we could isolate one set of rays from the fence, so that each particle on the fence would send one ray to one part of the paper, we would see an image of the fence on the paper.

This is the easiest thing in the world to do — simply provide a perfectly dark room, paste a piece of cardboard over a slit in the window, and punch a hole in it with a needle. If you stay in this dark room until your eyes are accustomed to the dim light — until the pupils have expanded sufficiently to take in all the light possible — you will see a perfect reproduction of the scene outside, upon the cardboard. This reproduction becomes smaller, *less* clear and *more* brilliant as the cardboard is brought nearer the hole; and larger, clearer

HERBERT F. SMITH LENGTHENING SHADOWS

and *less* brilliant as the board is moved away. The reason for this picture is easily understood. Of the multitude of light rays, reflected from any one part of the object, only one small bundle falls upon the pinhole and goes through. All the rest strike the opaque outside of the room, and are again reflected off into space. The little bundle, or "pencil" as it is called, of light waves, which hits the pinhole, goes through until stopped by the cardboard screen. But an immense number of such pencils are entering the pinhole at different angles, each from a different part of the subject. And when these strike the screen they form little spots of light, the same color as the object they came from, and in the same relation to each other as the particles of the object from which they were reflected bear to each other. These little spots of light overlap and intertwine, and behold! we have a "pinhole" picture!

No lens made can take a picture truer in perspective and with such freedom from distortion as can the pinhole. But the pinhole has to be so small (else the pencils of light would be big enough to make a confused, instead of a clear,

WM. H. ZERBE, JR.
FLYING THE KITE
POSTAL PHOTOGRAPHIC CLUB

GURDON R. FISHER
AFTER THE STORM
LEWIS J. FITLER
ALONG THE SUSQUEHANNA
POSTAL PHOTOGRAPHIC CLUB

C. R. TUCKER THE MILL

image) that the making of a photograph by the pinhole method requires much time. The pinhole is like a fine water-pipe, the lens like a large pipe. The same amount of water can be run through the little pipe as through the large pipe, but it will take as many times longer as the little pipe is smaller than the big one.

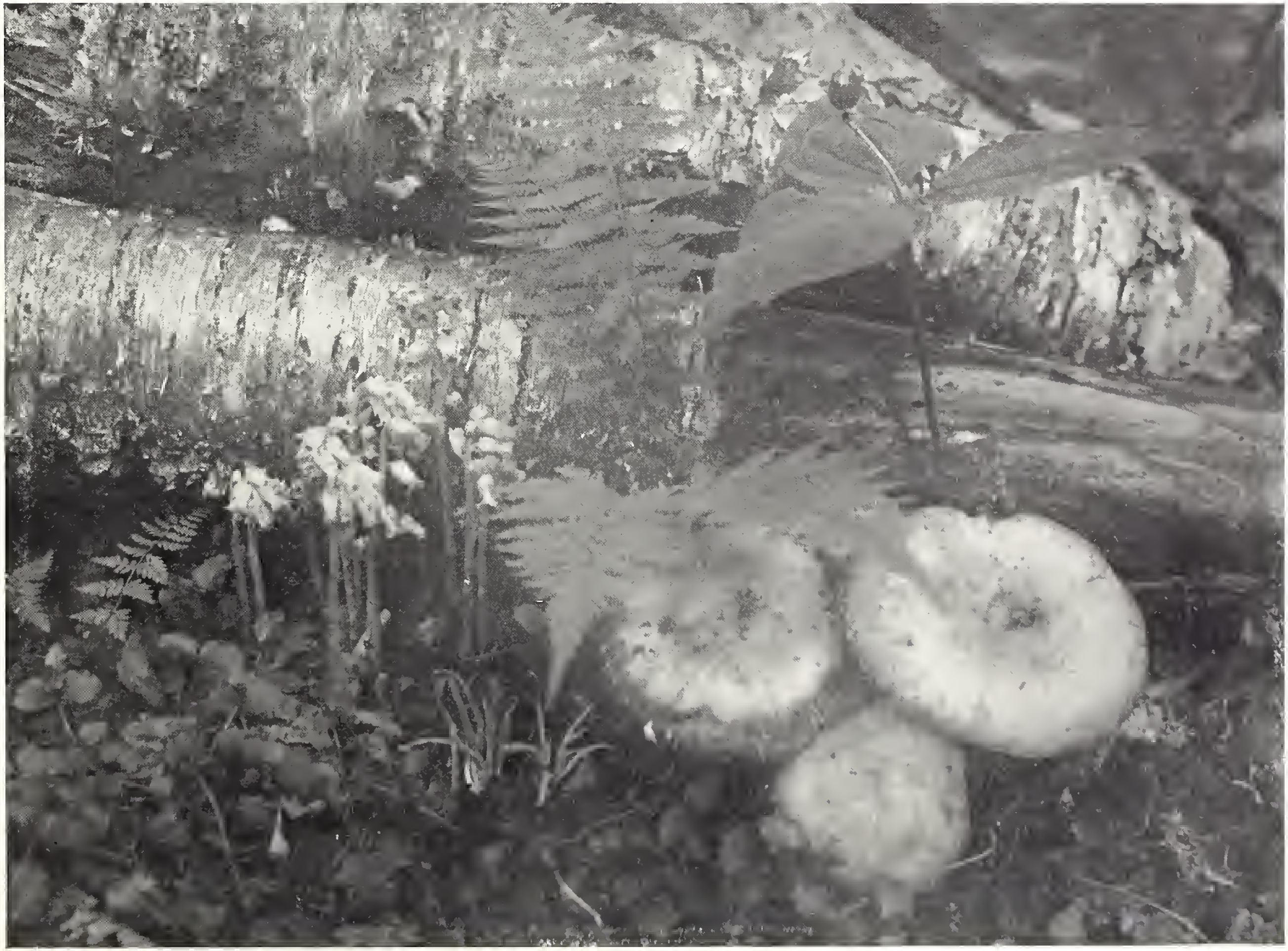
The practice of photography demands that pictures be taken in small intervals of time. Consequently, we must have some means of enlarging our pinhole, and still retaining a clear image. This means is the lens.

Glass and other transparent bodies have the property of bending a wave of light. Stick a pencil in a glass of water, and it appears bent. The light reflected from the pencil in the water is bent by what is called refraction. Now, if we can so shape a piece of glass that, when fitted over the hole, which has been enlarged, in the dark room, it will collect the scattered pencils of light

S. I. CARPENTER

THE MAINE COAST

POSTAL PHOTOGRAPHIC CLUB



J. HORACE McFARLAND

POSTAL PHOTOGRAPHIC CLUB

PLANT LIFE IN SHADY WOODS

GURDON R. FISHER
POSTAL PHOTOGRAPHIC CLUB

SEPTEMBER MORNING IN THE HILL COUNTRY

which fall on it, and bend them all to a common center, so that they meet at one point on the screen, we will have multiplied the speed of the pinhole by as many times as the lens is greater in area than the pinhole, less a small per cent lost in reflection and absorption.

Take any magnifying-glass, or reading-glass, and hold it in the sunlight, with a piece of paper before it. Moving it to and fro, there is found to be one position where the spot of light formed is smallest and brightest. This spot of light is an image of the sun, formed by the lens on the paper. Probably the paper will smoke and burn shortly, because all the light and heat that falls on the glass has been sent to a common center, and that one spot is as many times hotter than plain sunlight as the area of the lens is greater than the area of its image. (This is the theory and takes no account of dispersion of heat by conduction, etc.)

You will notice that the image of the sun is colored at its edges, and not sharp. The single glass does not do its work properly. Doubtless you know that a prism of glass will break up a beam of sunlight into colors. The reason is: sunlight is composed of seven primary kinds of light, and each is refracted more, when passing through glass, than the previous kind. Now, it is obvious if a lens refracts one kind of light more than another, they will not all come to a point at the same place. Consequently, with the plain "uncorrected" reading glass, you see color. In a good photographic objective this tendency is

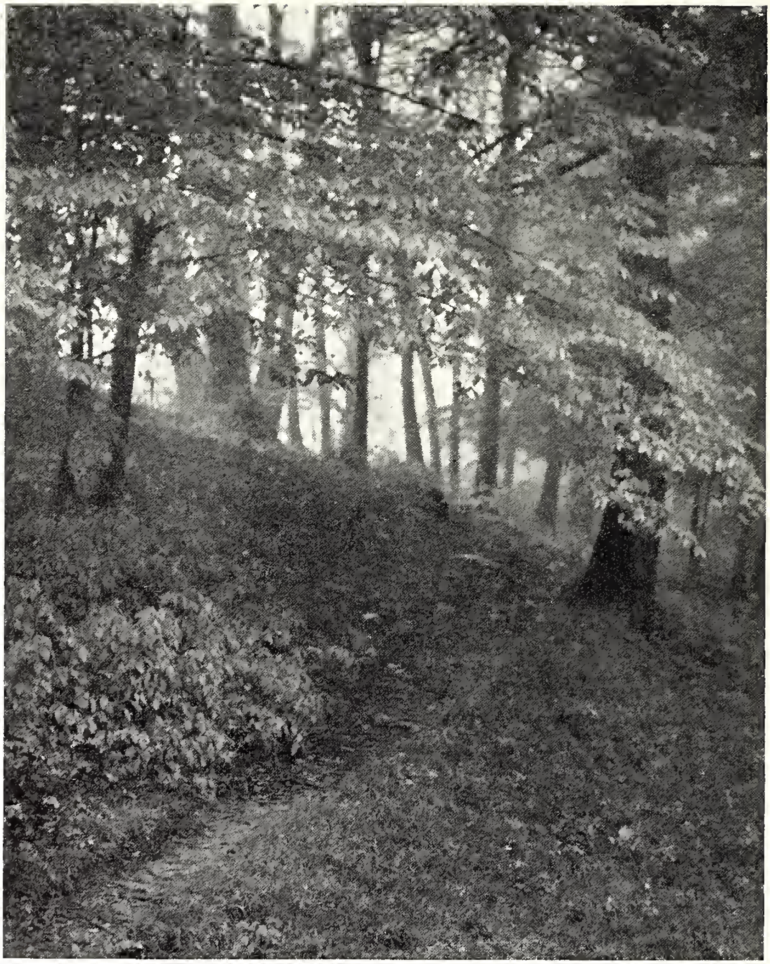
IRVING K. PARK
POSTAL PHOTOGRAPHIC CLUB

A JUNE FLOOD IN THE FOREST

corrected by combining two or more varieties of glass, of different refractive power, so that one counterbalances the other. By this means the light with which we see, and what is known as the chemical rays of light — very powerful rays which we do not see — are brought to the same point of focus. Then when we put our lens in the dark room (camera) and focus an image upon the screen, the rays we do not see come to the same focus as the rays we do see; and when the sensitive silver compound surface is put in place, the invisible and visible rays act in the same place. A lens corrected for color is called an achromatic objective.

But it is very difficult to make a lens which will render straight lines as straight lines. To do this, we make what is called a symmetrical doublet — that is, a lens composed of two corrected lenses, placed one behind the other. The faults of number one are corrected by number two, and the distortion of number two is made *nil* by previous distortion the other way by number one. It is like two men hitting a post on opposite sides, with sledge hammers — they hit at the same time, and with equal force, and the post does not bend in either direction.

But in spite of all this correcting, there still remain a great number of errors of truth to be corrected; to give them their technical names, astigmatism, flare, curvature of field, etc., each of which must be compensated for by the addition of a new glass, or the peculiar shaping of one already used. This calcu-



WM. T. KNOX
POSTAL PHOTOGRAPHIC CLUB

JERSEY WOODLAND

lating of the lens is a most abstruse problem in practical photographic mathematics, and must be left to those who have made a life study of it. There has never yet been made a lens which was absolutely perfect, but the lenses now produced do such wonderfully true work that it takes an expert test and a microscope to discover in what way they are imperfect.

But the most complicated lens, made of the greatest number of glasses and corrected for every known distortion, is nothing more, in principle, than a big pinhole, which possesses the property of ending all the pencils of light which fall upon it from one object, into a focus at some point behind it. The bigger the lens, in proportion to this distance, the more light it lets in, and the quicker

R. E. SCHOULER
POSTAL PHOTOGRAPHIC CLUB

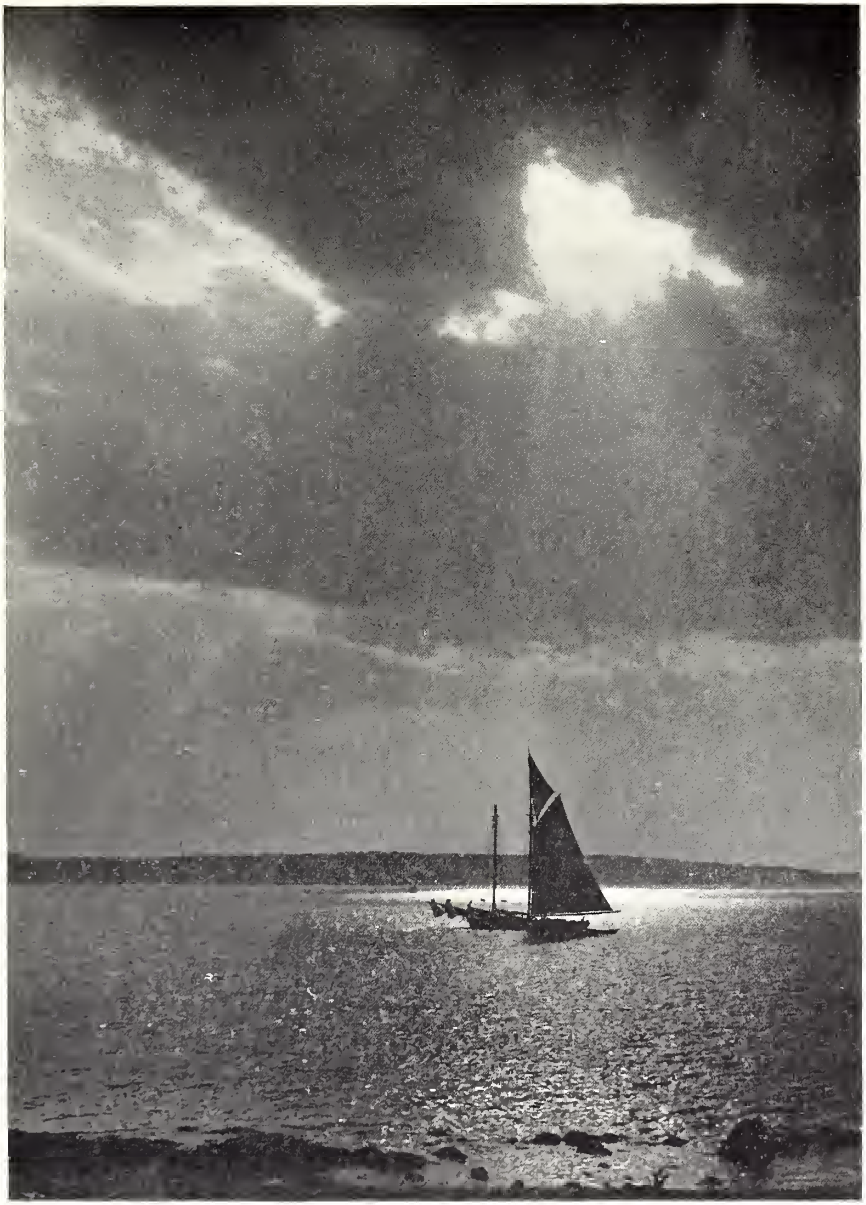
THE WHITE BIRCH

it can take photographs; but also, the bigger it is in proportion to its focal length, as this distance of lens to image is called, the more difficult it is to correct and make so that it will produce a clear image. Consequently, the faster a lens is — other things being equal — the more expensive it is. You see many lenses advertised, and doubtless some of you, not familiar with the subject, have wondered what such expressions as f. 6.8 or f. 5.6 might mean. F. or f. stands for the words "focal length," — that is, the distance the image formed by the lens is from the lens when it is focused upon a distant object, and the numbers after the F. or f. mean that if this f. distance be divided by that number, the diameter of the lens will be had; in other words, that the working diameter of the lens

ANSEL W. NEWMAN
"TELL ME A STORY, GRANDPA"

(according to the symbols mentioned) is one sixth and eight-tenths or one fifth and six-tenths of the focal length. If a lens is workable at an aperture of one inch, and its focal length is eight inches, its symbol would be f. 8. A lens of twenty inches focal length with an aperture of f. 16 would have an opening one and one-quarter inches across (these figures are for simple lenses; corrected lenses do not figure out exactly this way, but it is near enough for purposes of explanation).

Finally, let me say that I have not begun to explain the wonders of a photographic lens, nor to try to write more than the most elementary explanation of how the lens works. It is a complicated subject and requires much study to comprehend — and such comprehension is only needed for the lens user. But I am confident that the wonders of the working of a lens, and the broadly stated principles of its action, which I have endeavored to lay down, should be of interest, from the academic standpoint, to any one.



C. S. LUITWIELER
AFTER THE STORM
POSTAL PHOTOGRAPHIC CLUB

THE POSTAL PHOTOGRAPHIC CLUB OF THE UNITED STATES

G. A. BRANDT

THE early history of the club is somewhat obscure, but from the best obtainable information the club originated in February, 1885. The first album was issued in the latter part of April of that year. For several years thereafter the club underwent many vicissitudes, and it is understood was more than once disrupted. In December, 1888, it was entirely reorganized and a new constitution adopted. Since that time the club has maintained its organization uninterruptedly. During the past few years the club has prospered, and is at the present time in a most flourishing condition. The list of members is nearly full. Membership is limited to forty. At times, during the past few years, the applications for membership have been so numerous as to necessitate keeping a "waiting list."

At first, the albums circulated by mail — hence the name of the club. The increased membership, however, together with the adoption of the note-books containing, as they do, written matter, rendered the albums unmailable, except as first-class matter, and it became necessary, on account of the weight of the packages, to abandon the mails as a vehicle of transmission.

Owing to the weight of the packages containing the albums and note-books and the heavy charges for expressage, membership in the club is restricted to persons residing East of the Ohio River.

The object of the club is advancement in photography through the medium of monthly albums and note-books circulated among the members.

The personnel of the club includes some of the most accomplished amateur photographers in the United States.

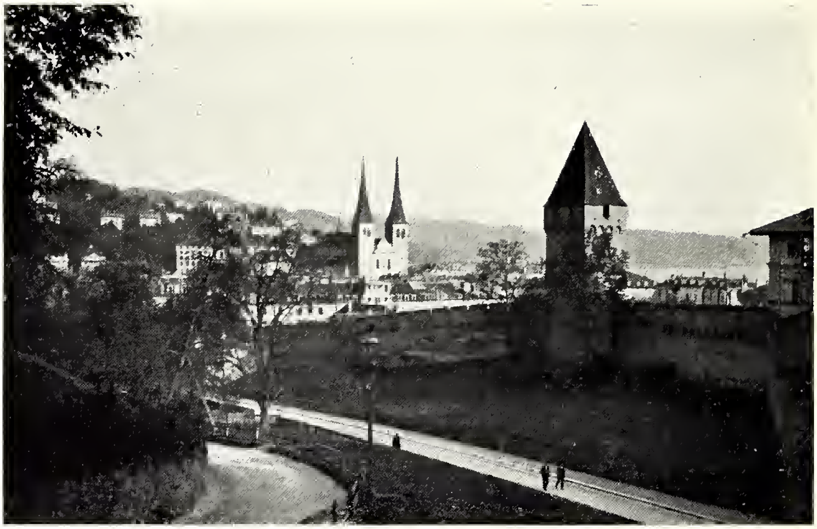
The aims of the club may be briefly summed up as: —

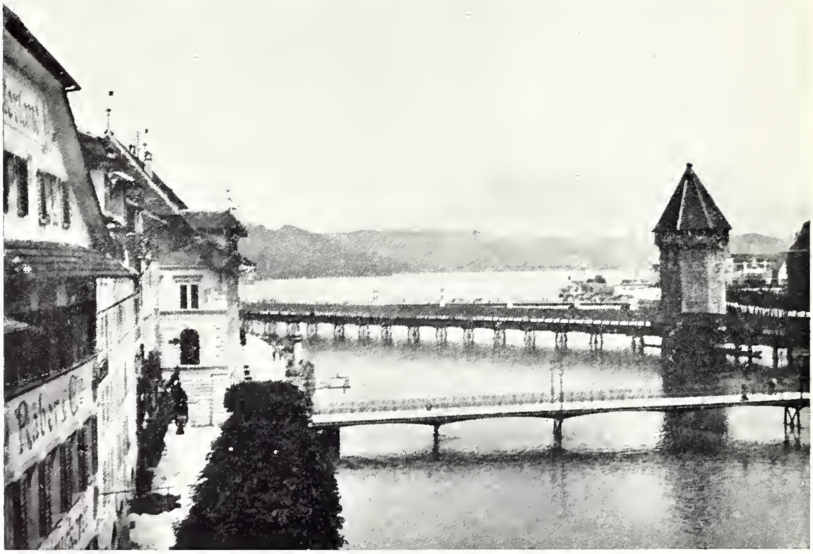
1. The assembling in albums of prints of members of the club.
2. The opportunities afforded by the note-books for interchange of ideas and fair, dispassionate criticism of the work presented by each member.
3. The pleasure of examining the work of accomplished experts.
4. The advantage and instruction to be derived from the frank, wholesome and unbiased criticism to which each print is subjected.

It may be added that on the first round of each album the name of the maker of the print is suppressed, thus rendering the artist incognito and affording scope for more freedom of comment.

The note-books constitute one of the chief elements of strength of the club. Primarily, they were used solely for criticism of prints, but their scope has been greatly extended from time to time. They now contain the monthly official route list of the albums, a monthly report by the secretary and treasurer; they afford a convenient vehicle for suggestions, the discussion of topics of interest and profit to the club, and they play an important part in the promotion of sociability among the members and frequently lead to the formation of lasting ties of friendship.

E. H. WASHBURN
A MEADOW LANDSCAPE
POSTAL PHOTOGRAPHIC CLUB





WILFRED A. FRENCH
OLD WALL, LUCERNE
KAPELL-BRÜCKE, LUCERNE

A PHOTO-ERA TOUR IN EUROPE

(*Continued*)

Lucerne, Mt. Pilatus, Lake Lucerne and the St. Gothard Railway

WILFRED A. FRENCH, PH. D.

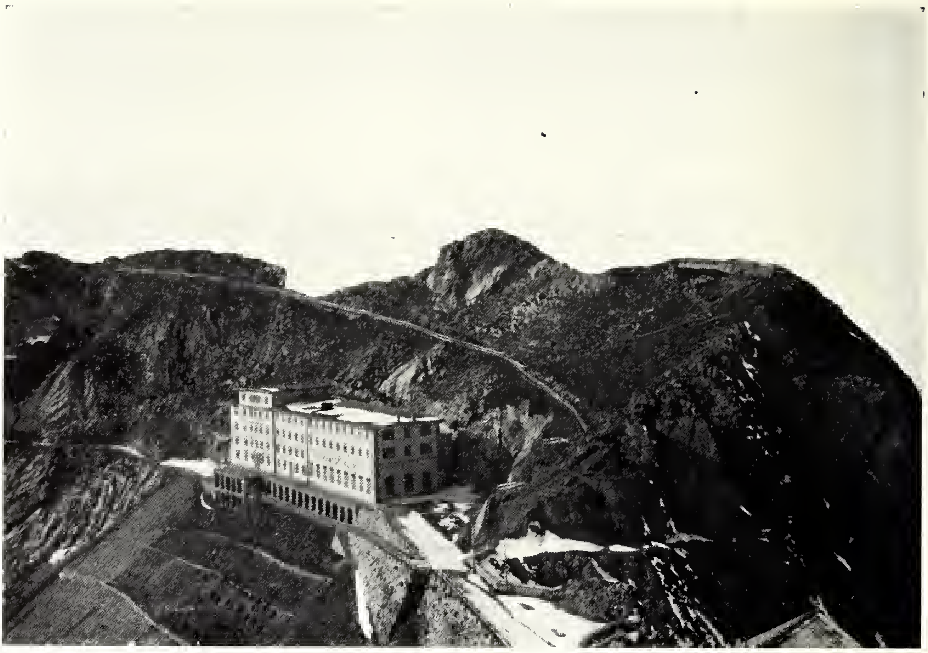
OUR rooms looked out upon the rapidly-flowing Reuss — here leaving the lake and entering upon its northerly course; the terrible Pilatus, looming up in front of us; the ancient Chapel Bridge and Water Tower, and the emerald waters of the lake — alive with craft — terminating at the left with the well-known contours of the Rigi. Who is not familiar, in some form or other, with Lucerne and its treasures? But no pen, palette or camera can adequately portray the extraordinary beauty of its situation, or the prospect spread before the eye of man from any of its surrounding hills. We were blessed with grateful returns from our photographic ventures — souvenirs of scenes of ineffable beauty and charm, which, blended with gentle thoughts of by-gone realities, may be metamorphosed into dreams of inexpressible delight. The noble self-sacrifice of Arnold of Winkelried, five hundred years ago, may be a myth and one may question even the splendid courage of William Tell; but there is no doubt of the magnificent heroism of the Swiss guard, who died to a man in the defense of Louis XVI. Thus one looks with emotion upon the Dying Lion, conceived and modeled by Thorwaldsen, and hewn out of the living rock by the Swiss artist, Auer.

Of the six famous view-points offered by the Lake of the Four Cantons, as it is more generally known, we chose Pilatus for our ascent. Although the weather seemed perfect and not a cloud veiled the brow of the rocky monster, we learned that the day was not propitious for a view from the summit, and that news of a favorable prospect would be telegraphed from the top and posted in every hotel of Lucerne and the neighboring districts. The next morning we were greeted by a dense, impenetrable fog. Nothing was visible. Disappointed and sad, we ventured out into the street, where we observed scarcely a sign of life. Objects more than three feet distant were invisible. Not a team was abroad. Lucerne seemed like a city of the dead. We partook of our breakfast in silence. Hardly had we finished, when our attention was attracted to a commotion in the office, the cheery voice of Herr Zähringer being plainly audible — "*Alles ist gut, meine Herrschaften. Der Berg ist hell!*" We all rushed out into the corridor, where we beheld a number of guests staring at a large red sign in black letters bearing the trilingual announcement, "Pilatus — hell, clair, clear." We fairly danced for joy. To dash upstairs, unmindful of the elevator, gather our wraps, cameras and field-glasses, was the work of a moment, and, conducted by the porter, we slowly picked our way to the railway station. It puzzled us to understand how the view from Pilatus could be clear with Lucerne and the lake buried in a deep fog. In thirty minutes the train stopped. We were at the base of the enchanted mountain. We at once stepped on board the curiously shaped car, which was to convey us over the celebrated Pilatus railway, considered the boldest and grandest in the world — most daringly

WILFRED A. FRENCH
THE MÄNNLI TOWER, LUCERNE
LUCERNE AND PILATUS

WILFRED A. FRENCH SPRUER BRÜCKE, LUCERNE

constructed, yet absolutely safe. The fog continued as thick as ever, though we gradually climbed higher and higher. Suddenly, without a moment's warning, we were flooded with the warm and dazzling rays of King Sol, whose domain we had just entered. We were above the fog, stretched before us like an ocean, upon whose downy, undulating surface were scattered several islands, which with the aid of our binoculars we identified as the Stanzerhorn, the Rigi and the Bürgenstock. Above us a beautiful mackerel sky and the horizon, alive with snowy crests, expanding each moment, as the engine, with labored efforts, lifted us higher and higher into regions of awe-inspiring grandeur. Up we climb, over ravines and through tunnels, our vision broadening continually, till at last we reach the Pilatus Kulm. The prospect hence is wild and grand, almost overpowering. But close beside us towers the isolated peak of the Esel. A view from its bold summit must be even more commanding. An arduous pull along the iron balustrade and in ten minutes we are at the top! Grand beyond description is the view that now presents itself to the observer. The mind fails to grasp the beauty, the vastness, the sublimity of the scene. Only after the lapse of several minutes are we able to concentrate our attention upon the details of this colossal picture. The sea of mist, like an immense cloak of ermine, lies far below us, seemingly following the course of the lake. Closely ranged



WILFRED A. FRENCH PILATUS KULM

about us lie the Matthorn, the Tomlishorn, the Oberhaupt and the Klimsenhorn, which, with the Esel, form the principal peaks of Mount Pilatus, their precipitous heights flecked with snow. Encircling these are hills and valleys, immediately followed by mountain ranges in endless perspective, their summits glistening and shimmering in the noonday sun. To be unmindful of photography at a time like this, were but human; yet we realized, as never before, how futile would be our attempts to impress the photographic plate with the glories of nature, such as we now beheld. But true to our picture-making propensity we made numerous exposures, which afterwards seemed to justify our temerity. Only too soon came the hour for our return to the city and, grateful for the glorious opportunities vouchsafed us by a bountiful Providence, we entered the car and began the downward journey. Lengthening shadows were creeping over the landscape and the *Wolkenmeer* had receded very appreciably, thereby imparting a different character to the scenery we had admired during our ascent of the mountain. Bye-and-bye we reached the surface of the vapory sea and once again we were wrapped in its chilling embrace — isolated from light and life. Thus we continued the descent to Alpnachstad and the return to Lucerne, which we found still buried in gloom. During the evening a strong eastern wind brought relief and, before retiring for the night, we were able to distinguish the jagged outline of Pilatus.

WILFRED A. FRENCH
ASCENDING THE ESELWAND, PILATUS

Our departure from the queen-city of Switzerland was signalized by a steamboat ride to Flüelen, situated at the southern extremity of Lake Uri, a branch of Lake Lucerne, or the *Vierwaldstätter See,* as it is known in this locality. The day is clear and we find the lake more beautiful than we had expected. We are mindful, too, of the historical associations which mark its lovely shores, including the exploits of William Tell, the national hero of Switzerland and the champion of its independence. We realize that this ride is one of the events of our trip through Switzerland. We pass the Wagner House, the first conspicuous object on our right, rejoicing that the master spent the six years of his exile in so delightful a spot. Pilatus, looking less defiant since our victorious ascent of yesterday, presents a magnificent spectacle. His rival, opposite, the Rigi, smiles down upon us, although we had not honored it with the customary visit. We admire each village, as the boat stops successively at Weggis, Vitznau, Büochs, Beckenried, Treib and Brunnen. We now proceed southward, entering the Lake of Uri, and soon observe on our right, the "Schillerstein," a huge stone pillar rising abruptly out of the water, which the grate-

WILFRED A. FRENCH STEAMBOAT LANDING, LAKE URI

ful Swiss have converted into a monument to the poet, who has immortalized the deeds of her heroes. A little farther on we arrive at a small plateau — the "Rütli," where, according to tradition, three brave men, staunch and true, met on a night, six hundred years ago, and took a solemn oath to rid their beloved country from the yoke of the Austrian. The shores here converge, rising almost perpendicularly from the lake. The stillness and grandeur are impressive in the extreme. We need but a storm to imagine the scene of that fatal night, when Tell steered the boat containing the tyrant Gessler to a convenient point and then leaped ashore, disappearing in the darkness. And there, on the opposite shore, whither the boat is now turning, is Tell's Chapel, the Mecca of all loyal Swiss. Beyond and high up, we note a seam running along in the rocky wall of the mountain. It is the famous carriage-road — the *Axenstrasse*, connecting Brunnen with Flüelen. We left the boat at Tell's Platte, visiting the Chapel, then climbing up the steep path to Tell's Ruhe, situated near the *Axenstrasse*, where we lunched. Then we began our walk to Flüelen, along this remarkable piece of Swiss engineering skill — the *Axenstrasse*, delighting in the magnificent scenery to the south and west of Lake Uri. At the Axenfluh, in the tunnel pierced with several large openings, where the road rises to a height of over 400 feet over the lake, we were suddenly overtaken by the Föhn, the Alpine south wind, which enveloped us in a cloud of dust, almost smothering us. There was no escape. After the playful zephyr had spent its force, we found ourselves covered from head to foot with a thick coat of light-gray dust, transforming us into strange-looking objects. Recognizing each other only by our voices,

WILFRED A. FRENCH
TELL'S CHAPEL, LAKE URI
THE AXENSTRASSE, LAKE URI

we continued our promenade, enjoying the superb view of the towering Bristenstock, proudly guarding the village of Flüelen lying cosily within its shadow.

Boldly planned and skilfully constructed is the St. Gothard Railway, which, everybody knows, is the great international highway between the North and the South of Europe. It is built primarily to accommodate traffic and to convey travelers as speedily as possible from the heart of Switzerland to points immediately south. The section lying between Amsteg and Bellinzona, including the wonderful St. Gothard tunnel, affords some of the most magnificent mountain scenery imaginable and also represents the high-water mark of engineering skill. Unfortunately neither can be fully appreciated from the railway, but rather from the well-constructed carriage-road, which, south of Göschenen — the northern terminus of the famous railway tunnel — is known as the St. Gothard Pass. But we were already ten days behind schedule time, so at Flüelen we boarded the train for Italy. The weather that day was showery, but it did not wholly mar the exceedingly interesting trip. We had previously studied the remarkable character of the railway and with map in hand carefully followed the course we were traveling. I wonder if many of the vast number of persons making this trip realize what enormous difficulties the train has to overcome before it arrives at Bellinzona. At Amsteg it rushes out of a long tunnel, crosses an imposing bridge several hundred feet above a roaring mountain torrent, only to quickly disappear in another and still longer tunnel. This game of hide-and-seek is kept up until Gurtnellen is reached. Here, however, the train enters a spiral-shaped tunnel and leaves it at an increased elevation of several hundred feet. A few minutes later it nears Wassen, where it displays the greatest triumph of railway engineering in the world. After circling twice around this loftily-situated village, by means of spiral tunnels inside of two mountains separated by a deep ravine, and crossing the Maienreuss three times by bridges of different levels, the train reaches Göschenen. Hardly recovered from our hair-raising experience, we now plunge into the great tunnel — *over nine miles in length* — wondering if there were any limit to the constructive ingenuity of the Swiss engineer. Our passage through Mount St. Gothard, effected in sixteen minutes, occasioned no discomfort, whatever, owing to the perfect system of ventilation operated from one end of the tunnel to the other. The wonderful spiral tunnel of Gurtnellen was repeated four times during the rest of the trip, those constructed at Faido being mathematically perfect circles. We had now descended into a country which in surroundings, architecture, costume, physiognomy and language, was Italian, though Swiss politically. The smiling verdure of the landscape, the lemon and fig trees, the glorious chestnut and walnut woods and the luxuriant vegetation indicated that we were nearing "the garden of the earth" — Fair Italy. Soon we were at Locarno, the end of the route and the northern extremity of Lago Maggiore. This was our first acquaintance with a Swiss town, typically Italian. We passed three hours here, scarcely realizing the change only a few hours had wrought, and then took the boat for Pallanza. (*To be continued*)

VIEW FROM MOUNT PILATUS

VICTOR HUGO

It is a solemn hour and one filled with meditations
In which one has Switzerland beneath one's eyes.
That sturdy knot of strong men and tall mountains,
Inextricably knit into the heart of Europe,
Which notched the battle-axe of Austria
And broke the formidable sword of Charles the Bold.
The Creator made her mountains. William Tell made
her men.
One's emotion is intense.
For the memory is no less occupied than the eye.
It is not only a segment of the globe that one has beneath
one's eyes,
It is a segment of history also.
The tourist comes here in quest of a prospect;
The thinker finds here an immense book,
In which every rock is a letter, every lake a sentence,
Every village an accent, and from which ascend,
Mingled together, like a cloud of smoke,
Two thousand years of memories.

EDWARD MACDOWELL, born in New York, has Irish-Scotch blood in his veins; hence, no doubt, the Celtic spirit of some of his more important piano works, as the *Scotch Poem*, composed when he was living at Wiesbaden; and the *Sonata Eroica*, the *Norse Sonata*, the *Celtic*. Although he studied at the Paris Conservatory when he was at an impressionable age, French musical thought had little or no influence over him; but the influence of Joachim Raff, his chief master, was strong, and for a time it threatened to choke his own individuality. The influence of Raff is often seen in MacDowell's thought and expression, and to such a marked degree in the first orchestral suite that even a careless hearer would swear confidently that no one but a sympathetic pupil of Raff could have composed this suite. After MacDowell's return to this country he found other thoughts and other forms of expression, as in the *Indian* suite, conceived before Dvorák's symphony, *From the New World*, was performed, and in impressionistic piano pieces composed after he was on familiar, intimate terms with Nature as she reveals herself in New England. Yet, it should be remembered that one of his most original and imaginative compositions, *The Eagle* (after Tennyson), was composed a little time after Raff's death and when America was to him a word without peculiar significance.

When the youth was in Paris, there was talk of his abandoning music for the sake of painting. He was then more interested in piano playing than in composition. As a piano virtuoso he was an artist in black and white, rather than a colorist. His chief characteristics were a singular continuity and fleetness of expression and a rare and at times granitic force. He apparently disdained nuances and demi-nuances; he was frank rather than subtle; he rejoiced in open air, not twilight effects. He was robust physically and mentally, and he expressed himself robustly by means of the piano. But as a composer he is first of all impressionistic, and the hearer himself must meet him halfway. MacDowell's music at its best is never obvious, never purely decorative. It is not surprising, then, that it is caviar to many who cannot understand why he is put by his friends, admirers and partisans at the head of native-born American composers. No matter which one of his songs, for instance, may be sung in recitals, songs by other American composers awaken more spontaneous and hearty applause, even when they may be commonplace, for their appeal is more direct and the climax is conventional and expected. The composer of moods will never have a large and miscellaneous audience, and therefore the MacDowell of the *Hexentanz* is regarded by the great public as much more of a man than the composer of *The Eagle*, the *Scotch Poem* or the sonatas.

The chief characteristic of his best music, orchestral or for the piano — for MacDowell once said to the writer that chamber music was to him as cold veal — is imagination, and by virtue of this imaginative gift he must be ranked among the distinguished composers of this or any other land. His fastidiously

DAVIS & EICKEMEYER
EDWARD MACDOWELL

artistic taste prevented his imagination running wild; his virile nature would not allow his fastidious taste to reduce imagination to merely pretty fancy. He realized that form is not a fixed and rigid mold throughout the centuries; but he also knew that formless music must also be spineless and futile. His music is nobly sensuous, but never sensual. Its melancholy is that which comes from earnest and brave thoughts of the mighty problems of life and death, of love and suffering. It has atmosphere — that in which Celtic bards and dreamers saw all things enwrapped; that of an autumnal afternoon on a New England hillside; or that of the surging, moaning sea with all its hidden mystery. The good people — elfs, gnomes, water nymphs — whispered to him their secrets. And in a vision he heard the clash of arms in battles fought fiercely long ago, the tumult and the shouting. Thus he dreamed the dreams of a poet; and in his music he wrote poetry, epic and lyrical, grave and tender; but always with a clear sight, a lofty purpose, a pure heart.

DEVELOPMENT

WILDIE THAYER

Suppose the dainty, budding rose
Refused its petals to unclose;
Should seek in darkness to retreat
And secret keep its perfume sweet.
Should say: "I for myself will bloom
Enclosed within my fragrant tomb;
With others I will never share
My beauty and my sweetness rare."

If thus its life it should restrain
A crippled bud it would remain;
But when it gladly seeks to share
Its fragrance and its beauty fair,
To others hastens to impart
The balmy secret of its heart,
It grows in beauty, grace and power
'Till it becomes a perfect flower.

EDITORIAL DEPARTMENT

Let be thy wail, and help thy fellow-men,
And make thy gold thy vassal, not thy kind,
And fling free alms into the beggar's bowl,
And send the day into the darken'd heart;
Nor list for guerdon in the voice of men,
A dying echo from a falling wall;

* * * * *

And lay thine uphill shoulder to the wheel,
And climb the Mount of Blessing, whence, if thou
Look higher, then — perchance — thou mayest — beyond
A hundred ever-rising mountain lines,
And past the range of Right and Shadow — see
The high-heaven dawn of more than mortal day
Strike on the Mount of Vision! — TENNYSON.

THE SPIRIT OF SAN FRANCISCO

(The following telegraphic pen picture by Benjamin Ide Wheeler, president of the University of California, appeared in the *Outlook.*)

THE population of a great city suddenly robbed of the entire shelter and equipment of civilized life is left standing bare under the stars. No roofs, light, food, water, furniture or tools; one suit for each person, or scarcely that. No cars; only automobiles, bicycles and wagons; the movement is mostly on foot around a fourteen-mile hem of desolation. The banks have their money locked in heated vaults. There is nothing to buy — no shops; the largest department store advertises to open in a small dwelling here. No paper, no printing-press, no telephones or telegraph. City engineers without level or compass, without records of streets or pipes. Every library burned — Public, Mechanics', Mercantile, Sutro, Law; only the unique Bancroft Library of Original Documents preserved, and now rendered priceless. It will be transported directly to Berkeley as the property of the State University. No courts or governmental buildings. The externals of life are reduced to a condition of primitive savagery. Unerringly self-government springs anew from root without resort to military laws; the ablest men come to the front; the people welcome leadership of intelligence and integrity. The government is practically in the hands of the excellent Citizens' Committee, with the Mayor presiding. Hundreds of carloads of provisions, especially of cooked food, rushed in from coast cities, averted the danger of famine. Superb order from the first. People brave, unrepining, "game"; half population now camping at

Oakland and Berkeley, or departed into country. Money needed to feed a hundred thousand people for thirty days, fifty thousand another thirty. Then fund needed to help deserving men to get on their feet. So we can use large amounts advantageously now.

The above pen picture and stirring appeal is one that calls for a prompt and generous response on the part of the public. Already much has been done in a general way to relieve distress among the afflicted. But there are individual cases where the sufferers have a special claim upon our generosity. The photographic fraternity of the ill-fated San Francisco has lost practically everything it had in the world, and the appeal which we made in our columns last month we desire to emphasize and strengthen in this issue. A committee has been appointed to start a National Fund, by a popular $5.00 subscription, to assist in reestablishing our unfortunate brothers in business at the earliest possible moment. The PHOTO-ERA will be glad to receive and acknowledge subscriptions thus contributed, and will forward same to Jos. Byron, Treasurer California Relief Committee, 53 West 32d Street, New York City.

THE INTERCOLLEGIATE

FOR some years back the PHOTO-ERA has advocated the adoption of photography as an integral part of the curriculum of colleges, including universities and the higher institutions of learning. We submit that the camera is to-day a recognized and invaluable part of the laboratory equipment of every up-to-date school. That the educator who lacks the knowledge of its manipulation deprives himself and his class of a most necessary assistant. That it is plainly of value in the study of nearly every form of science, since there are very few subjects of applied or pure science which cannot be more easily understood by its use. That, as a means of general culture, it is of unquestioned value in stimulating and training the artistic sense of the student. Finally, that it cultivates in him his powers of observation, strengthens his sense of perspective and proportion and gives him exactness of thought and expression. For five years we have consistently urged these facts upon the attention of the leading educators of the country, but apparently in vain, owing to custom and official indifference. At last the gray dawn seems to be breaking, and strange to say, it is the undergraduate who sees the light first. The Camera Clubs of Harvard University and the University of Pennsylvania have gotten together, under the leadership of Maurice Fleisher, U. P., and of Messrs. Malcolm D. Miller and F. F. Marshall, H. U., and they point the way in this first Intercollegiate Exhibit, for the other college camera clubs to follow. The task has been a herculean one, and at times well-nigh hopeless. But the dauntless spirit of these earnest young men has never faltered and the cause of progressive educational work and photography has won. We publish in this issue with much pride the results of the first Intercollegiate Exhibit. *Macte Virtute Esto.*

PHOTOGRAPHY AND THE SCHOOLS

PIRIE MACDONALD, Henry Havelock Pierce, Sadakichi Hartmann and others have been advocating in the New York *Sun* the adoption of photography as an educational appliance in the public schools, to take the place of drawing. It has called forth a spirited correspondence, some of which we reproduce here.

To the Editor of the *Sun* :—

Sir: I am a painter, interested solely in my profession, and do not know much about education, but I have talked the idea over with other painters, and we all agree upon the one point that photography in the public schools, no matter in what way it should be employed, would deteriorate art progress—by making the pleasures of life even more mechanical than they are to-day. The beautiful art of wood engraving has already been replaced by reproduction processes, the typewriter is very busy to destroy the originality of ideographic expressions, the pianola is making big inroads on genuine musical knowledge and now photography looms up and wants to do away with drawing.

ALBERT GOULD.

To the Editor of the *Sun* :—

Sir: Cooking, sewing, military drills and photography in the public schools! What next? Why not also amateur theatricals and automobiling?

INCENSED PARENT.

The principal objection urged, however, was the excessive cost, the objectors taking the ground that the parents of but few public school pupils are able to buy their children photographic outfits. Richard Hines, Jr., of Alabama answers this objection in this way. To us this appears to be a very silly objection. As well object to the introduction of manual training into the public schools, on the ground that each boy would have to be furnished with a fully equipped carpenter shop, or to the installation of domestic science, on the ground that each girl would have to own a steel range and the necessary cooking utensils. There is no doubt that the introduction of photography into the schools would be of great benefit to the pupil. Pictures are always interesting to children, and when they can take part in the making of them, and at the same time be learning something of chemistry, optics and the correlative sciences that cluster around photography, it is certainly well for the pupil. Powers of observation are sharpened, much of art is learned in the disposition of lines and masses and the value of light and shade, while matters of history and geography can be indelibly impressed upon the mind of the child by means of photography as in no other way. It is of so great value as an educational engine that the boards of education can well afford to stand the expense of its introduction.

We confidently predict that the time is near at hand when the camera will be as necessary a part of the public school equipment as the spelling book or the blackboard.

THE ROUND ROBIN GUILD

Conducted by Elizabeth Flint Wade. Specially designed for the amateur photographer and the beginner. Membership may be obtained by sending name and address to the PHOTO-ERA.

HONORABLE MENTION G. EDWIN KELLER

A PIOUS old dominie sat down to write his weekly sermon, and choosing book, chapter and verse, began to set down the same at the top of his paper. Before he had finished copying his text he was called away from his desk. During his absence a waggish nephew sat down in the dominie's place and read the words: —

"I have seen the wicked in great power, and spreading himself like a green bay,"—

The nephew took the pen wrote the word "horse" instead of "tree," punctuated it with a period, drew a line beneath the text, as was the habit of his uncle, and went his way. The parson returned, and noting that the text was written and the line of demarcation made, began and finished his sermon, laid it in his drawer and on Sunday took it to his pulpit, and you may imagine the astonishment of his congregation when he read his curious text. The dominie wiped his glasses and looked again, but he knew he had copied the verse verbatim from the Bible, and bravely "sticking to his text" went on with his sermon, using the horse as his metaphor.

Now comes the reason for telling this story. The compositor made the editor say in the March number of the PHOTO-ERA that *two* ounces of ammonium persulphate and ten ounces of water are the proportions for a reducer. Like the parson the editor did not read the proof or the text, and the error arose from the fact that figures instead of words were used in manuscript in giving the proportions re-

FIRST PRIZE FEDORA E. D. BROWN

quired, and ½ was set up as 2. Unlike the parson the editor cannot find it in her heart to stick to the text, but makes this statement in order not to lead the unwary and innocent amateur into error. So please correct your text to read one half instead of two ounces of ammonium persulphate to ten ounces of water, a formula which much experience has proved to be the most successful preparation of this valuable reducer.

Attend, all ye faithful Historic Guilders! Here is a task for you, set forth for the summer. It is the making of photographs of historic trees. We have some pictures already contributed by members of the Guild, but we are anxious to complete the series as nearly as possible in order that it may be catalogued and ready for the library.

In order to stimulate our members to assist in this work we publish a list of some of the pictures desired, and any member who has any of these trees for a neighbor, is requested to desire his distinguished friend to sit for his picture. Some of the trees on the list are, alas! no more, but pictures of them were made, and any one who can do so is asked to send a picture

SECOND PRIZE ROBERT E. WEEKS

of a tree that lives now only in history. First of all there is the celebrated Charter Oak, whose age was estimated at nearly two thousand years, and which was destroyed by a storm fifty years ago come August. Another oak is that under which the slaves of the region of Hampton, Virginia, first heard read the Emancipation Proclamation, and is now known as Freedman's Oak, and Emancipation Oak. A picture of the great white oak at Dedham, whose magnificent proportions are etched on the town seal, also deserves a place in this collection, as does the Eliot Oak of Newton, Mass., under which John Eliot, "seated like Abraham at eventide, beneath the oaks of Mamre," taught the Indians Christianity, and that other oak at Natick near the site of the old Eliot meeting-house which is a survivor of the "peace trees" brought by the Indians to their "apostle."

Next to the Charter Oak in historic importance is that magnificent elm at Cambridge, beneath whose wide-spreading branches Washington took command of his army. Our oak series must also contain a picture of that monarch of its species, the tree at Flushing, Long Island, which George Fox, the founder of the Society of Friends, used as his pulpit.

Among the "Liberty Trees" is the old Liberty Elm at the junction of Essex and Washington Sts., Boston, which was

THIRD PRIZE W. E. BERTLING

planted by a schoolmaster and dedicated to the independence of the colonies, and was the rallying-place of patriots before, during and after the Revolutionary War.

No picture is extant of that famous tree under whose sheltering arms William Penn made his wonderful treaty with nineteen tribes of Indians — a treaty which never was broken; but a portion of the trunk is still preserved at the Penn family home in England, and from one of its enormous branches a chair was made for that celebrated Philadelphian, Dr. Rush. This tree came to an untimely end in the year 1810, long before the days of photography.

Among trees with histories is the tall pine tree at Fort Edward where Jane McCrea was slain, the tulip tree on King's Mountain in South Carolina, where ten bloodthirsty tories were hung at one and the same time; the magnificent black walnut near Haverstraw on the Hudson, where General Wayne mustered his forces at midnight previous to his attack on Stony Point; and the beautiful magnolia near Charleston, South Carolina, under which General Lincoln held a council of war before surrendering the city.

Many trees which deserve a place in our collection, though not having direct historical associations, have been planted by men who have rendered glorious service to their country. There are the pear trees planted more than two hundred years ago by Governor Endicott of Massachusetts and Governor Stuyvesant of New York; the ash and tulip trees planted at Mount Vernon by General Washington; the gum trees planted by Alexander Hamilton, one for each of the thirteen original states; and the elm planted on the Capitol Grounds at Washington by General Grant. Then, too, we ought to include in our collection of historic trees photographs of the remaining cypress trees on the old Jumel grounds which Napoleon imported from Egypt and presented to Stephen Jumel.

So let us rally to the work and let September see our collection of Historic Trees nearly, if not quite complete. There are many more trees which we have not space to mention, but of which some of our members have knowledge and who will be only too glad to photograph them for this unique and valuable collection. Let us make the pictures ere the subjects are no more.

ROUND ROBIN GUILD COMPETITIONS

First prize: Value $10.00.
Second prize: Value $5.00.
Third prize: Value $2.50.

Prizes may be chosen by the winner, and will be awarded in photographic books or magazines published or advertised by us; in enlargements, art portfolios of photogravures, mounts, or other photographic materials advertised by us; or, if preferred, we will send any article of a photographic or art nature which can be bought in Boston for the amount of the prize won.

RULES

Membership in The Round Robin Guild, with all its benefits — among which the correspondence privilege probably stands first — is free to all, and we invite every photographer to become a member. Entrance in the monthly competitions is limited to subscribers to Photo Era.

SUBJECTS FOR COMPETITION

May. — "Mother and Child Pictures." Closes June 30.

June. — "Garden Scenes." Closes July 31.

July. — "Genre Pictures," Closes August 31.

AWARDS — SNOW SCENES

First prize: Fedora E. D. Brown.
Second prize: Robert E. Weeks.
Third prize: W. E. Bertling.

Honorable Mention: F. S. Andrus, Wm. S. Adams, C. H. Auch, F. E. Bronson, M. E. Baumberger, John Dove, Lewis Emmett, Miss E. Y. Goldsmith, Gust. Horlin, G. Edwin Keller, K. Theodor Krantz, Miss E. J. Kyon, E. D. Miller, Paul R. Morrison, Grace E. Mounts, John Arthur Marcy, Wm. R. Roberts, Wm. O. Ruse, George M. Sheer, M. D., William Spanton, George A. Smith, F. F. Sonberger, W. J. Scales, Monroe A. Smith, Mrs. Clara Turner, A. M. Troup, Charles Vandervelde, O. T. White, Wallace S. Williams, M. A. Yauch, James A. Young.

ANSWERS TO CORRESPONDENTS

Carlos T. — Use citric acid to clear the whites in bromide prints developed with ferrous oxalate. If you will use metol-hydrochinon developer for your bromide prints you will get soft velvety blacks and delicate half-tones and there is no fear of staining. After development the prints are fixed in hypo, 1 oz. to 10 of water.

Helen G. H. — To straighten your old films which are rolled so tightly as to be unusable for printing purposes, soak them over night in a solution of glycerine and water, $\frac{1}{2}$ oz. of glycerine to 16 oz. of water. Pin them by all four corners to dry, then store them in a film-holder, such as is described in the March Photo-Era and which you can make yourself at a very small expense.

Grace L. M. — You will save yourself a great deal of trouble if instead of using a backing for plates you try the non-halation plates for interiors where windows are included in the angle of the lens. The exposure of these plates is usually twice as long as for the ordinary plates.

Leonard F. — No; we do not publish a guide to photography. You will find in the numbers of the *Practical Photographer* most of the processes clearly expounded, including the development of negatives, after treatment of the negative and photographic retouching, in which you are specially interested. These numbers will be sent you on receipt of price, 25 cents per copy.

Anna Holmes. — You will find the printing-cut papers more desirable for the work which you purpose doing — the making of books of pictures — using the sensitive paper itself as leaves, as suggested in the Round Robin Guild. A blue-print book is not to be despised, especially if it is a book of marines. You may sensitize your own paper, using a heavier paper than that employed in the blue-print paper of commerce, and as the process is very simple and inexpensive, it would be a good idea to make your own blue-print paper.

F. D. J. — The glycerine-developed print you enclose is too smudgy. In some places the development has been carried too far and in others not quite far enough. Doubtless you use the solution too strong. Try diluting one-half and work up the head and the high lights first. I would not advise the making of gum prints until you are a little farther advanced in the practice of ordinary printing. You must learn what to take out of a picture when making gum prints.

E. H. Cary. — The local poisoning is due to the metol which you have been using. Better go to a physician and have him give you something to allay the irritation and also to prevent the spreading. Metol is very poisonous to some skins, but it is not at all alarming and is easily cured. Use rubber finger-tips when developing and avoid further trouble of this nature.

D. L. E. — Grams are often confusing when given in a formula instead of the familiar grains. Almost any arithmetic will give a table for transposing grams into grains. A gram is a trifle over 15 grains, and 30 grams is equal to 1 oz. and 25 grains.

Bertha B. — A black stain for wood work of camera may be obtained of any large dealer in photographic supplies. If not found there, then try a paint shop and ask for a dead black stain for woodwork. It is applied very thin with a wide brush. Better take your camera to an expert and have the bellows patched rather than attempt the work yourself, especially if the leak is in a corner of one of the folds.

B. N. S. — The lead intensifier about which you ask is probably made of nitrate of lead and ferricyanide of potassium. Use equal parts of a ten per cent solution of the two chemicals, and add a few drops of acetic acid to the mixture.

Clarence S. — The prints which you enclose for criticism are well made as far as technique is concerned, and the mounting is done in an artistic manner. You will find, however, that if you attempt less ambitious subjects you will be more successful in your pictorial results. It is never wise to attempt to represent historical subjects or subjects from poetry or prose, unless you have a model who is accustomed to posing. Any one may wear a tricorne hat, but there are very few who would be transformed into a Napoleon by so doing.

E. R. Bolander, 116 South Tenth St., Richmond, Ind., wishes to buy a second-hand Brownie folding camera, and a Brownie developing machine. Address as above.

Bertram D. — One of the best ways for dissolving hypo for plates, or prints, is to tie the hypo crystals in a square of cheese cloth and pour boiling water over them. One thus avoids dirt and sediment in the solution; and if one is in a hurry, there is no danger of finding undissolved crystals in the bottom of the hypo tank. A small quantity of boiling water will dissolve quite a large quantity of hypo.

G. D. C. — The stains on the hands caused by the pyro developer are easily removed by washing the hands in water to which has been added a little oxalic acid in ten per cent solution. An ounce of the acid solution in 20 oz. of water will make it of sufficient strength.

The Crucible

TESTING WATER

In the February number of Photo-Era we published in this department a series of directions for testing water for photographic purposes, and we wish here to supplement those directions with a few suggestions which we received some days since from the well-known analytical chemist, Reuben Haines of Philadelphia. Several of these tests are more certain of giving satisfactory results than the methods stated in the February issue.

1. In testing water for chlorides with silver nitrate in the way described the water should always first be made *distinctly acid* with pure nitric acid before adding the silver nitrate solution. Also since many pure natural waters show a faint cloudiness with silver nitrate it would be well to modify the direction to read that "a *decided* cloudiness or milkiness would show the water to be unsuitable."

2. In testing for sulphates with barium chloride the water should always be first acidified with pure hydrochloric acid, otherwise a precipitate may be formed when no sulphates except in traces are present in the water.

3. In testing for nitrates with ferrous sulphate (proto-sulphate of iron) solution, the test should be made as follows: —

Into a test tube of medium size pour the water to a depth of about one inch, incline the tube to about 45°, and pour *cautiously* and *slowly* down the sides an equal quantity of *strong* sulphuric acid of specific gravity about 1.80 so that it forms a layer below the water without mingling with it to much extent. There is no risk of accident in doing this if it is done slowly. *Cool the now heated* test tube in a glass of water and *when cold* add slowly a few drops of the saturated ferrous sulphate solution while inclining the test tube as before, or it may be added through a small glass tube curved at the lower end. Nitrates are indicated by a dark ring or layer between the acid and water. If no ring appears after a few minutes, shake the test tube *gently*, plunge at once in cold water, and observe again when cool. Heat destroys the color produced by the nitrate, hence the necessity to keep the tube cool. This is essentially the form of this test described in Fresenius' "Qualitative Chemical Analysis," edited by Professor Wells, 1897, page 387. I have found that if carefully performed this test will generally indicate as little as from 2 to 4 grains of nitric anhydride, N_2O_5, in one gallon of water. There are other tests for nitric acid in water far more delicate and more reliable than this old one, but it is still useful even to the analytical chemist as a quick rough test to find the approximate amount of nitric acid present in water. The one most generally used at the present time is known as the phenol-sulphonic acid test for nitrates. It is easily performed, rapid and as accurate in its most recent form as any known test for nitric acid, but it is perhaps more adapted to the laboratory than to the home worker.

4. Nessler solution for the ammonia test, when freshly prepared, should be allowed to stand for several hours until it has settled perfectly clear. It is then decanted, *not filtered*, into another perfectly clean bottle for use. Filter paper generally contains traces of ammonium salts sufficient to affect the test solution.

5. The starch iodide test for nitrates is only available in the absence of other substances which also produce the blue color by this test, viz., compounds of iron, etc. Fresenius recommends to distil the water with a little acetic acid before making the test.

It is of not much practical importance for the purpose of photography, since anything beyond traces are continually and quickly oxidized to nitric acid, except when a large excess of organic matter is present and the water would be shown to be bad by the other tests. In water analysis for drinking purposes the importance of test for nitrites rests upon the belief that the presence of these compounds shows the organic matter in the water to be in a state of decomposition by fermentation or otherwise, which is considered a bad indication as regards health.

Very few chemists use the test for nitrates above mentioned for testing water since we have another exceedingly delicate test made with a substance prepared from coal tar products, known as Ilosvay's Test.

SPOTTING MEDIUM

The best medium for filling pinholes in negatives after development is made of a mixture of carmine, ultramarine and sepia in gum arabic water, varying the proportions so as to match as nearly as possible the color of the negative when looked through. A fine-pointed brush should be used, almost dry, and very little of the color taken at a time. Care must be exercised not to pass the edges of the spots, but to apply the color as in stippling.

BROWN TONES ON BLUE-PRINT PAPER

To turn blue-prints to brown, wash and dry the print, then place it in a solution of ammonia made of 1½ oz. of stronger ammonia and 12 oz. of water until it has nearly lost its color. Rinse and place in a solution of tannic acid 154 grains and water 7½ oz. Leave in this bath until the required color is secured, then wash thoroughly and dry.

A NEW PROCESS OF COPPER TONING

A new process of copper toning for bromide prints is being used quite successfully in England. The print is first bleached in a solution of 120 grains of potassium ferricyanide, 30 grains of potassium bromide and 20 oz. of water. It is then washed for ten minutes and placed in a solution of Schlippe's salt, 120 grains to 10 oz. of water. The print is then placed in a weak solution of ammonia, 1 drachm to 20 oz. of water, and afterwards washed in water to remove the ammonia. (Without the washing in weak ammonia the whites would be degraded.) A stock solution of 1 oz. of copper sulphate in 9 oz. of water is made. To half an ounce of this half an ounce of ten per cent hydrochloric acid and 40 oz. of water are added, the print is then toned in this, stopping when the desired tint is reached. It is afterwards fixed in hypo and again washed.

TO DETERMINE THE CHIEF REAGENTS IN A DEVELOPER

It may be of use to the non-chemist worker in the dark room sometimes to know of a simple test or two by which to recognize the main constituent in a developer, or the developing agent in a solution.

A few simple tests for the chief reagents are as follows: —

Pyro. — Nitric acid gives a deep red color. Ferric chloride gives a blue, becoming brown. Ferrous sulphate gives no reaction. Ferricyanide of potash gives deep red.

Hydroquinone. — Nitric acid gives dark red, changing to yellow if in excess. Ferric chloride gives dark brown, gradually becoming paler. Ferrous sulphate gives light yellow. Ferricyanide of potash gives no reaction.

Metol. — Nitric acid gives deep red, gradually becoming light yellow. Ferric chloride gives deep red brown. Ferrous sulphate gives nothing. Ferricyanide of potash gives dark reddish yellow.

Eikonogen. — Nitric acid gives reddish color. Ferric chloride gives reddish brown. Ferrous sulphate gives violet-red color if alkaline. Ferricyanide of potash gives nothing.

Glycin. — Nitric acid gives yellowish red color. Ferric chloride gives reddish brown, becoming green and then violet. Ferrous sulphate gives nothing. Ferricyanide of potash gives light yellow color.

Pyrocatechin. — Nitric acid gives reddish yellow color. Ferric chloride gives deep green color. Ferrous sulphate, if floated where solutions meet, gives a crimson ring. Ferricyanide of potash gives nothing. — *The Photog. News.*

The Filter

JUST AS WELL

THE artist painted a picture — a study on reptile life —
And proud of his work, he took it in to show the snake to his wife.
Looking it over, she tried to guess the subject he'd done with vim;
But, "I can't make head or tail of it, dear," frankly she said to him.

"Head or tail?" he repeated. "Neither of these can you see?
It's evident, then, I haven't done well — for that's all a snake should be."
Whereon he turned it sideways, and putting in shadows gray,
He named it again, "The Country Road," and sold it the very next day.—*Judge.*

A BAD BREATH

IN far-off Lahore it is the opinion that the best way to treat a heckler at a political meeting is undoubtedly to humor him, not in the sense of tempting him to continue his pursuit, but in that of reducing him to silence by a witty sally, a course that rarely fails to find favor with the other members of the audience. For instance, when the late Sir Henry Havelock-Allen was subjected to incivility by a "cowardly and despicable rotten egg heckler" he blandly mopped his face and fixing his eyes on the spot whence the almost winged messenger had been thrown, calmly remarked —

"I say, my friend, the hen that laid that egg had a very bad breath."

HEART DISEASE

"The trouble with you," the doctor said after examining the young man, "seems to be that something is the matter with your heart."

"With my heart?"

"Yes. To give it a name, it is angina pectoris."

"Guess again, doc," said the young man. "That isn't her name at all."

HANDED OUT HOT

IN a certain college a student greatly annoyed the professor of natural sciences by asking frequent and foolish questions. One day, after he had interrupted the lecturer several times with irrelevant remarks and questions, he asked, "Professor, how long can an animal live without brains?"

"Well," was the professor's reply, "I really don't know, Mr. Blank. How old are you?"

CANDOR

"GOOD gracious!" exclaimed the mint sauce, "I should think you'd be ashamed to masquerade as 'spring lamb.'"

"Well," replied the roast," it does make me feel rather sheepish." — *Catholic Standard and Times.*

GREASE VS. GRAVITY

DR. ARTHUR WILLIAM WHITE, professor of experimental physics at Yale University, delights in telling his experience with an inventor of the unlettered "genius type," who came to the professor with a model of a perpetual-motion machine.

"H'm, looks plausible," observed the doctor, "but it won't work. What are you going to do about gravity?"

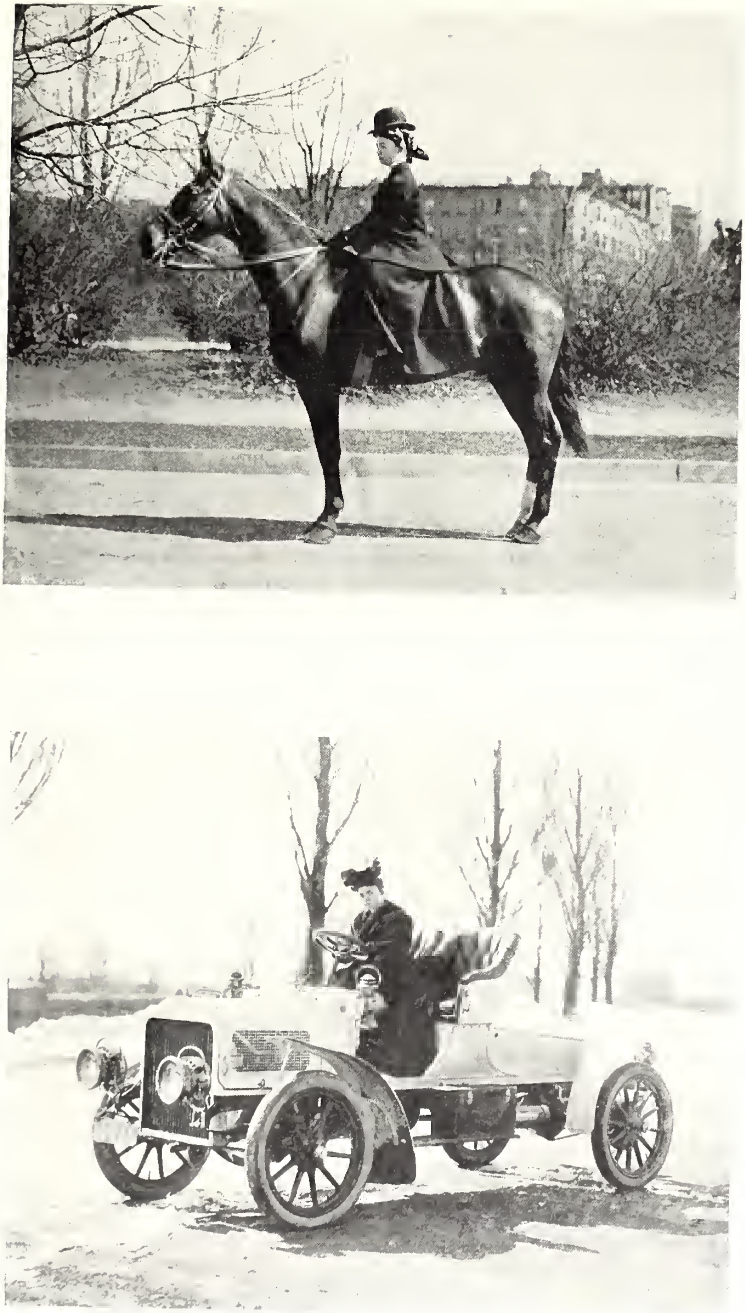
"Gravity!" said the visitor, scornfully, "t' 'ell wit' gravity; we'll use plenty o' grease." — *Everybody.*

SECRETS

"OH, ne-ver tell your se-crets to
The fish, what-ever else you do;
For fish-es carry tails, you know,
And they might tell on you!"

A MOTHER'S HOPES

The Fond Mother.—"Be sure to take his picture with his hand to his head. He always sits that way, the little dear. We all think he will be an actor or a novelist some day."



THE OLD WAY AND THE NEW
MRS. J. S. HATHAWAY, HER HORSE
AND WHITE STEAM CAR

The Pennsylvania Academy of the Fine Arts held an exhibition of photographs arranged by the Photo-Secession, from April 30 to May 27, 1906. The pictures in this exhibition were, with very few exceptions, chosen from those which were hung in a series of exhibitions at the Photo-Secession Galleries in New York during the present season. They summarized, in a broad way, the trend of that international movement of which the Photo-Secession is the organized American exponent, a protest against the conventional conception of what constitutes pictorial photography. This complete surrender on the part of the Pennsylvania Academy of the Fine Arts is another acknowledgment of the absolute right of pictorial photography to an honored place amongst the fine arts. We understand, furthermore, the Academy of Arts at St. Louis also has requested the Photo-Secession to exhibit there in December.

At a well-attended regular meeting of the Wisconsin Camera Club, April 25, the members and a number of visitors enjoyed an interesting and instructive lecture on lenses by S. Lawrence of the Bausch & Lomb Optical Company. Following this a flashlight demonstration was given by A. Gundelach and the array of cameras leveled at the group taken was awe-inspiring. The plates were immediately developed and most of the members presented with prints before the close of the meeting. This was the first meeting of Milwaukee's new camera club in their new quarters and a number of new names were added to the roster. Milwaukee amateurs have responded generously to the untiring efforts of the club's press agent and it is expected that the membership will reach the one hundredth mark before the first meeting in May. The chairman of the print committee announced a print competition which opened May 1, and closed May 25, a number of prizes having been donated by Milwaukee dealers.

Secretaries of other similar organizations are requested to enter into correspondence with Mr. Bernard C. Roloff, 810 Pabst Building, Milwaukee, Corresponding Secretary, with a view towards securing an exchange of courtesies for the members. This is especially desirable in view of the well-known reputation of Milwaukee as a Convention City—a reputation which our "Greater Milwaukee" Association is endeavoring to augment during the present year.

A very successful exhibit was held by the Akron Camera Club April 14 to 21 inclusive, at the art rooms of M. O'Neil & Co. Ninety-eight prints of a high order of excellence were shown, the exhibits of John W. Schuler, H. W. Minns, George F. Kunz and William Spanton being especially commendable. The eighth annual exhibition reflects great credit upon the club, which is in a fairly prosperous condition and has a membership of about twenty-five. A movement is now on foot to materially increase the membership, and in this the Photo-Era wishes the club all success.

NATIONAL RELIEF FUND FOR CALIFORNIA PHOTOGRAPHERS

At a meeting in Boston, May 6, 1906, of the California Photographers Relief Fund Committee, which was inaugurated in New York, April 20, and the National Relief Association for California Photographers, which was started in Boston, April 27, it was resolved and decided that the two committees should act jointly under the title of the National Relief Fund for California Photographers, and that no photographer in this country who has the interest of his suffering California Brothers at heart need hesitate to give what he can to either source of appeal, or to both, for the final distribution will be made by the joint committee, to the end that every dollar will go honestly and with strict business care and watchfulness where it is most deserved and needed. As this union of committees is of a national character, all other committees of the country are invited to send their contributions to either Treasurer, Joseph Byron, Treasurer, 53 West 32d St., New York, N. Y., or Frank R. Barrows, Treasurer, 1863 Dorchester Ave., Boston, Mass.

New York Committee: B. J. Falk, Theodore C. Marceau, E. B. Core, Pirie MacDonald, J. G. Gessford, A. F. Bradley, F. E. Baker, Curtis Bell, Secretary, Jos. Byron, Treasurer.

Boston Committee: W. H. Partridge, M. B. Parkinson, Jo Di Nunzio, H. D. Haight, C. W. Hearn, Will Armstrong, Secretary, Frank R. Barrows, Treasurer.

THE Piety Corner Club of Waltham held an exhibition of photographs by members and their friends during the second week of May. While the attempts of the exhibitors were along modest lines, there was in evidence considerable taste in selection and no shortcomings of a very serious nature. This movement among the members of the Piety Corner Club is entirely unpretentious, yet of a healthy and spontaneous character, founded upon intelligent enthusiasm, that promises much for the future. We predict a marked improvement in its work and anticipate with confidence the next display of prints. The two prizes for the best exhibits of equal merit were awarded to Mr. Edmund L. Sanderson and Mr. F. G. Stickney, both of Waltham. The latter represented the non-members.

AN aid to vision is of inestimable value to the sportsman, traveler, ranchman and persons engaged in many kinds of business. The modern prismatic binocular is so far superior to the antiquated field glass that comparison not only demonstrates the inefficiency of the latter, but shows the progress made in optical science of which this invention is but one example.

If interested, the Gundlach-Manhattan Optical Co., Rochester, N. Y., will be pleased to send you a booklet giving an instructive description of the Turner-Reich binoculars.

THE Anthony and Scovill Co's catalogue for 1906 is an exquisite production; its cover, the work of the well-known artist, Harrison Fisher, alone is worth preserving and serves as a fitting invitation to peruse its contents in search of the great possibilities of amateur photography and of Ansco, its mechanical handmaid. Nor is the reader disappointed; the catalogue contains a wealth of interesting matter for the amateur, who will do well to get a copy of his local dealer or direct from the firm at Binghamton, N. Y.

In order that none of our readers may be led astray, we desire herewith to rectify several errors which we regret were made in naming some of the flowers which were reproduced in our May issue. The foam flower, on page 293, is in reality the bishop's cap or miterwort (*mitella diphylla*). It is possible, however, that foam flower is a popular name in some localities. The pretty white blossoms on page 296 are not anemones but flowers of somewhat similar appearance called blood-root (*sanguinaria canadensis*), also known as puccoon or tetterwort. On page 302 our printer made mayweed blossoms read "milkweed blossoms." The mayweed is, we believe, a plant very similar to what several well-known botanists state that our cut represents; namely, the common, wild New England aster which blooms toward autumn. A very pleasing spray of peach blossoms on page 317 was incorrectly called "apple blossoms," while the narcissuses on page 319 were misnamed "jonquils." The geranium on page 323 is not that known as the "ivy-leaf," which has smooth glossy leaves, but is the wild geranium or crane's bill (*geranium maculatum.*)

Probably the most important achievement of the Anthony and Scovill Co. is the Ansco-Vidil Film System. The Ansco-Vidil films are daylight-loading cartridge films, but packed in a new and special manner, possessing many great advantages over the ordinary form of roll film. Every film bears the trade-mark. In selecting a folding camera of whatever style or make, the purchaser should give special attention to the Ansco-Vidil Film System and should be careful to ascertain whether the new camera he is purchasing will take the Ansco-Vidil spools; for this new system offers so many advantages that it is bound to supersede, to a great extent, all other systems of photography.

A spool of Ansco-Vidil film has before the first film and between every succeeding film, a focusing screen, consisting of a tough semi-transparent parchment paper, enabling the photographer to focus accurately before each exposure, and answers the same purpose as a ground glass screen, with the decided advantage that after focusing it is only necessary to turn the winding key to bring the film into position. There is therefore no shaking of the camera or shifting of the focus, as it happens with a dry plate camera in which it is necessary to insert the plate-holder in front of the ground glass after focusing.

Exact focusing when using roll film has heretofore been impossible, but the Ansco-Vidil film has solved the problem. With this film one can see the image full size of the film, before exposure, which is a decided advantage over the ordinary small view finder.

It takes a bold business man to leave the rush and whirl of Broadway for the comparative quiet of a side street, but very often it is a move dictated by wise foresight. The Obrig Camera Company, which for eighteen years has been located at or near 165 Broadway, has been compelled to move by the ever active real estate operations that are going on in its district. The tallest building in the world is soon to be erected on its present store and so, with the first of May, the Obrig people were obliged to vacate and have moved with their photographic Lares and Penates to their new store at 147 Fulton St., just a few yards east of Broadway. There, three floors are at their disposal, and with splendid show windows — something that they have had to do without at their old place — they ought to be able to attract much new business. It goes without saying that their old customers will follow them to Fulton St., and we wish the firm much prosperity and increased business.

We have just received from the Bausch and Lomb Optical Co., Rochester, N. Y., a booklet on anastigmat lenses in general and Bausch and Lomb-Zeiss lenses in particular, which would prove of value and interest to any one who contemplates the purchase of a high-grade instrument. The characteristics and advantages of the four lenses treated in the booklet may be summed up briefly as follows: —

The Unar has the greatest speed and hence is necessarily larger than slower lenses with which it might be compared. Its speed adapts it to the most rapid snapshots, instantaneous work of all kinds, portrait and groups, and it gives full exposure under unfavorable conditions, when lenses of less speed would fail. With reduced aperture (diaphragm or stop) and therefore lessened speed, it is well suited to landscape work as well as the purposes of the other lenses. It has, therefore, the value of other lenses with the additional advantage of speed.

The Tessar is the lightest and most compact of the lenses. It is slower than the Unar, but twice as fast as the ordinary camera lens. It possesses remarkable definition and covering power which render its use particularly advantageous on large plates and for enlargements.

The Convertible Protar combines in itself nearly all the advantages of all the other lenses. In speed it is equal to Tessar. Its bulk is necessarily greater because of the number of lenses. In its single combinations and as a doublet it is adapted for all classes of work. The rear combination gives an image 1½ times, and the front combination twice as large as the doublet.

The Plastigmat is not quite so rapid as Tessar, $\frac{1}{9}$ less, and it is not so light. It has, however, the advantage that its rear combination can be used. Where the single combinations of the convertible Protars have a speed of f.12.5, those of the Plastigmat work at f.13.5, a speed somewhat less but still ample for instantaneous exposures under normal conditions.

PRACTICAL NOTES ON PHOTOGRAPHY. Elbert C. Smith. Brooklyn *Daily Eagle*, 1905.

This interesting book of 156 pages is not intended as a complete treatise on photography, but, as its name implies, is a collection of useful, practical suggestions for the average worker. The beginner will find simple guidance and instruction, while for the advanced amateur there are new methods and processes which require more skill and manipulation. There are articles covering a large portion of the whole field of photography; and the illustrations, which are contributed by well-known amateur artists, are of fine quality and show some of the many possibilities of photography.

MOUNTING AND FRAMING PICTURES. Paul N. Hasluck. Cassell and Company, New York. 40 cents.

This book of 160 pages and 240 engravings treats in a comprehensive manner the practical as well as the art side of a subject which interests all photographers — a subject worthy of much careful thought and study. In this volume the reader will find many suggestions for unusual and original treatment.

PHOTOGRAPHERS who are preparing for their summer outings should not fail to provide themselves with shoes equipped with O'Sullivan Rubber Heels, as one of the most essential parts of their outfit. Those who have the intention of taking walking trips loaded with a camera and supplies will find that the labor of tramping is materially reduced by the resilient heel cushions. For climbing, especially when the rocks are wet or icy, the clinging heels give a valuable sense of security, and materially reduce the danger of slipping. For treading the wet decks of yachts they are indispensable, while in golfing they halve the exertion and double the pleasure. In short, they are necessary for every one who desires to live outdoors in the summer, and we advise their use by every reader.

FROM Palo Alto, Cal., we have received the 1906 catalogue of the California College of Photography, the only college of its kind west of the Rocky Mountains. Fully equipped in every respect and conducted by men who have devoted their lives to the study and advancement of portrait photography, this college offers a complete course of instruction, at moderate rates, which cannot be equaled in a professional studio or excelled by any other college of its kind.

TRUTH DEXTER. Sidney McCall. Little, Brown & Co., Boston. $1.50.

A new illustrated edition of this fascinating story has just been received. The execution and design of the volume are of a high standard of excellence and the edition merits a large sale among book-lovers. The eight full-page illustrations by Alice Barber Stephens will be well worth the study of any of our readers who are interested in book illustration with the camera. The work shows this famous illustrator at her best. The story itself has already taken its place in the front rank of popular fiction and needs no comment here.

Die Photographische Kunst im Jahre 1905, fourth annual edition, edited by F. Matthies-Masuren and published by Wilhelm Knapp, Halle a. S. Germany. Full folio. Price, 8 Marks; cloth, 9 Marks.

The publication of photographic annuals of recent years seems to have developed into a friendly rivalry, each appearing to wish to eclipse the other in general excellence. While all are splendid examples of the book-makers' art and have made a successful appeal in behalf of photography as one of the fine arts, they have been surpassed as a whole by the German publication, *The Photographic Art during* 1905, the masterpiece of Wilhelm Knapp in this branch of bookmaking. The text speaks for itself, containing, as it does, the following-named papers: "A Summary of the Photographic Art during 1905," by the editor; "Photography and the Training of the Eye," George Fuchs, of Munich; "The Shape of the Print," Otto Ewel, of Dresden; "Photography and Culture — a Suggestion for the Founding of a Photographic Museum," Ernst Schur, of Charlottenburg; "Indispensable Requirements of Photography in Comparison with the Development of Painting," Dr. Friedrich Castanjen, of Berlin; "Concerning the Condition of Artistic Activity," Camillo Carl Schneider, of Vienna; "The Development of Photography in the United States of America," H. Schnauss, of Dresden; "Symbolism and the Limitations of Photography," Dr. Fritz Knapp, of Berlin; "A Few English Art Photographs," E. O. Hoppe, of London; "The Exhibitions of the Year." These articles are written by men of rare intellectual ability and technical experience, and will repay careful perusal by every worker familiar with German. The illustrations, while numerous, have been selected with fine discrimination and make a strong appeal to lovers of the pictorial. One recognizes several old acquaintances, but that is to be expected in a work of this character — a circumstance which may have stimulated the unusual excellence of the reproduction, be it engraving or half-tone. There are about one hundred and fifty large-sized half-tones, printed with the text, and seventeen inserts, mostly photogravures. The *pièce de résistance* is the 6 x 12 inch half-tone, by C. Angerer and Göschl, of a superbly framed three-panel picture, entitled, "Nachhall" (Echo), by P. Pichier, of Vienna. The conception and treatment of each panel, with the picturesque and decorative surroundings, are extremely pleasing and show considerable originality. This and the general effect of the group seems to indicate that the artist has studied with profit the masterly style of Hans Makart. The technical work of C. Angerer and Göschl is a triumph of half-tone engraving and may be studied with advantage by all who are interested in the process. Among the eminent workers, whose artistic ability is well exemplified in *Die Photographische Kunst*, are the leaders of every photographic school, America being particularly well represented. From the pictorial standpoint alone, this work deserves to be classed among the most important contributions to photographic literature ever published, and a copy should be in the possession of every earnest worker in the world. In view of the great expense in accumulating such a large amount of valuable material and publishing it in such a splendid manner, the price asked for the volume seems trifling.

The New York *Sun*, which nearly always hits the nail on the head, is to be commended for making the following timely observation: —

"The lens of the camera never lies. It tells all the truth that the honest sunlight communicates to it. The liar is the man with the brush or pencil who goes at the honest negative in the service of the dishonest newspaper. We are referring now to the batch of 'first photographs' of the San Francisco disaster."

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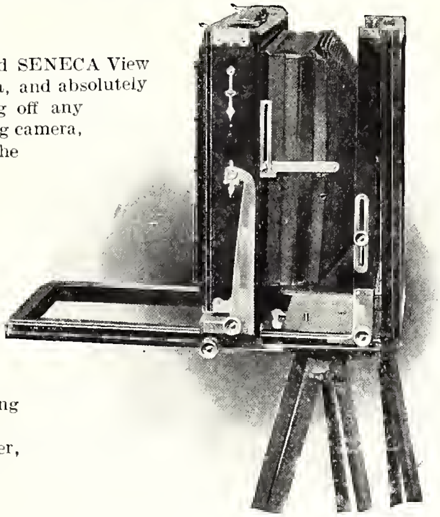

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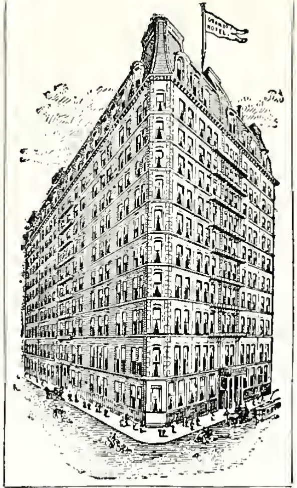

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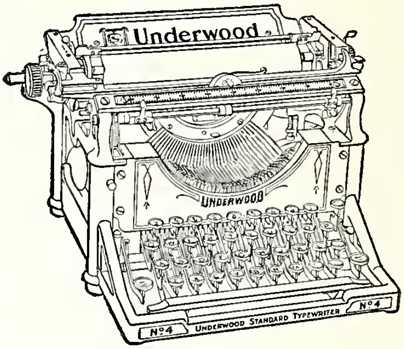

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The Pictorial Work of Frank M. Sutcliffe.

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A complete manual of the process, telling everything a platinum worker needs to know, such as making, printing and developing the paper to get all the possible colors. The book should be in the hands of every amateur.

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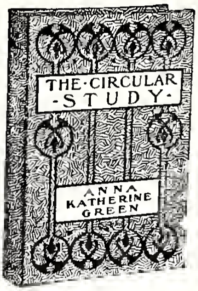

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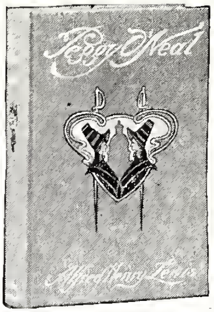

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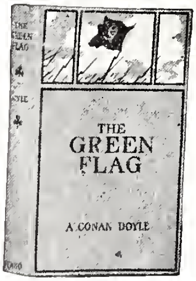

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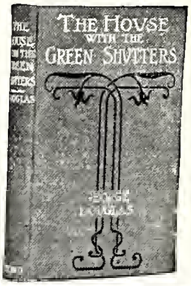

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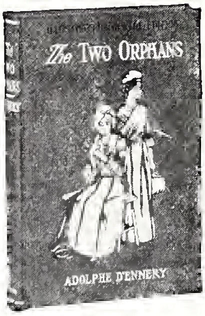

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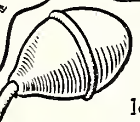

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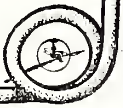

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Theseus from same. (British Museum)
Metope from Parthenon. (No. 310 in Catalogue of British Museum)
Portion of Slab of the East Frieze of the Parthenon, with Seated Divinities. (Acropolis Mus.)
Two Slabs of the North Frieze of the Parthenon. (British Museum)
Doryphorus. (Naples Museum)
Wounded Amazon, perhaps after Polyclitus. (Lansdowne House, London)
Caryatid from South Porch of Erechtheum. (British Museum)

GREEK SCULPTURE. B

Hermes of Praxiteles. (Olympia Museum)
Slab of Mausoleum Frieze. (British Museum)
The Alexander Sarcophagus. (Constantinople)
The Aphrodite of Melos. (Paris Louvre)
The Otricoli Zeus. (Rome Vatican)
Apollo Belvedere. (Rome Vatican)
Victory of Samothrace. (Paris Louvre)
Laocoön. (Rome Vatican)
Group of Athena and other Figures from the Altar of Pergamon. (Berlin Museum)
Augustus from Prima Porta. (Rome Vatican)

RENAISSANCE PAINTING IN ITALY. A

Giotto Di Bondone, Flight into Egypt.
Benozzo Gozzoli, Adoration of the Magi (Detail of Kneeling Angels).
Filippino Lippi, Vision of St. Bernard (Detail of Praying Angel).
Sandro Botticelli, Allegory of Spring.
Fra Giovanni Angelico, Angel with Tambourine.
Domenico Ghirlandajo, Presentation in the Temple.
Melozzo da Forli, Angel Playing Viol.
Pietro Perugino, St. Mary Magdalene.
Francesco Francia, The Annunciation.
Gentile da Fabriano, Adoration of the Magi (Detail of Group of Kings).

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Andrea Del Sarto, Madonna of the Harpies.
Michael Angelo Buonarroti, Delphic Sibyl (Detail).
Raphael Sanzio, Madonna of the Chair.
Raphael Sanzio, Sistine Madonna.
Leonardo da Vinci, Mona Lisa.
Bernardino Pinturricchio, Portrait of a Youth.
Sodoma, Ecstasy of St. Catherine (Detail of Nuns).
Andrea Mantegna, Madonna of Victory.
Giovanni Bellini, Madonna and Saints.
Vittore Carpaccio, Angel with Lute, from Presentation in the Temple.

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Correggio, Holy Night.
Giorgione, Madonna with Saints.
Titian, Three Graces.
Titian, Man with a Glove.
Tintoretto, Bacchus and Ariadne.
Paolo Veronese, Madonna and Saints.
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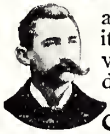

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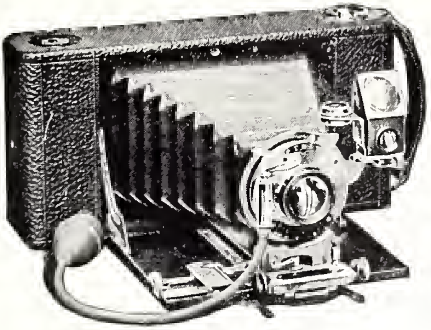

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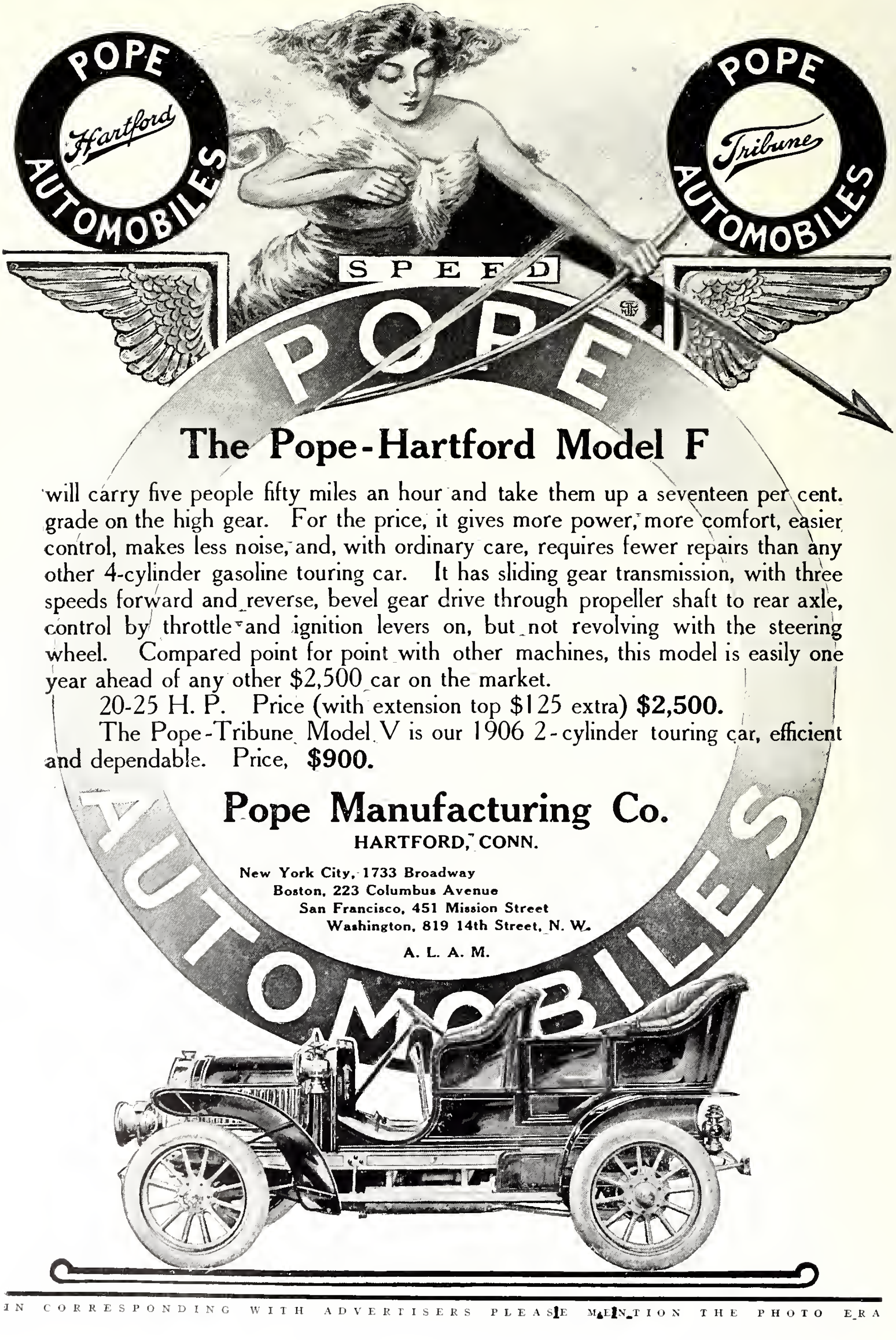

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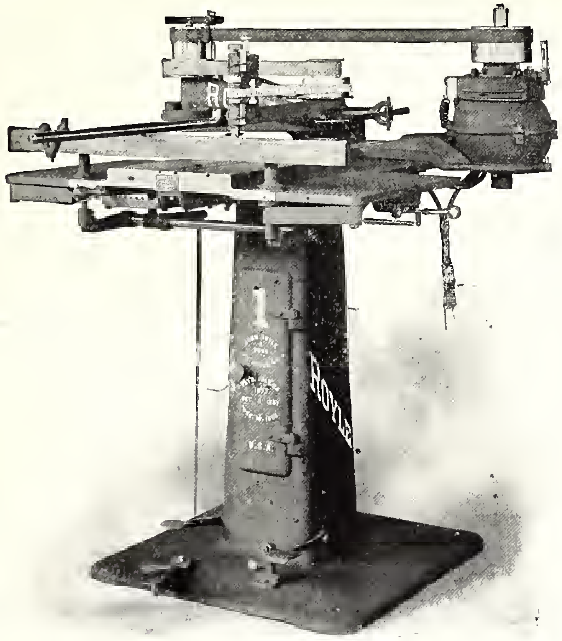

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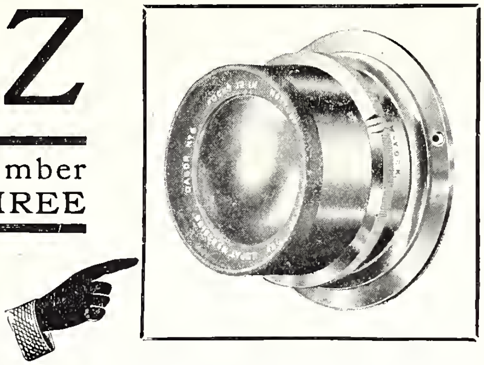

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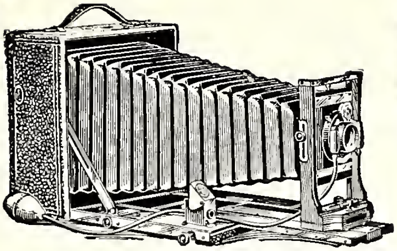

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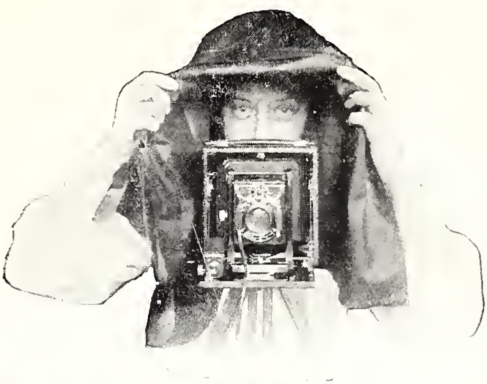

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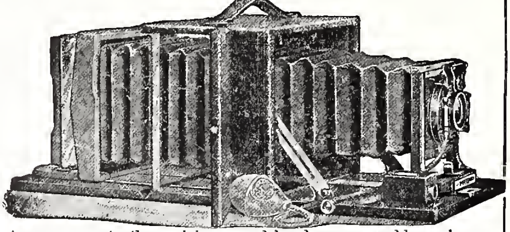

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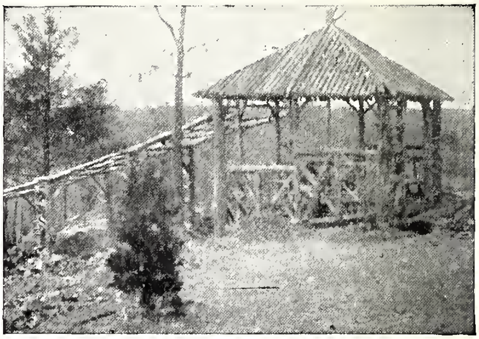

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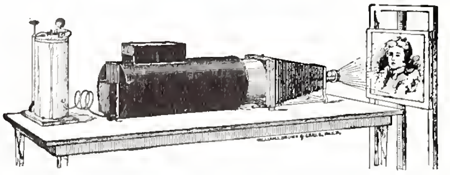

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The following prices are for prints retouched and mounted. The two largest sizes are mounted on stretchers.

8 x 10	$1.50	20 x 24	$4.50
10 x 12	1.75	25 x 30	6.00
11 x 14	2.25	24 x 36	8.00
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16 x 20	3.25	36 x 50	15.00
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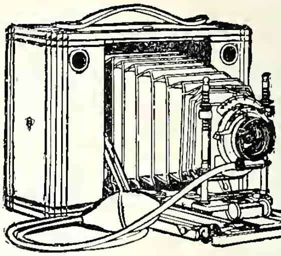

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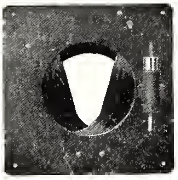

The new No. 6 Studio Shutter shown here for "time" or "instantaneous" exposures is **VERY FAST.** It has all mechanism inside, a feature appreciated by all users. **PACKARDS** are made in all sizes and styles. They work **smoothly, easily, quickly** and **without noise or vibration** in opening. It has an **established reputation,** yet is guaranteed to give satisfaction or your money back. Talk, though, is cheap; it's *results that count.*

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Prices for Enlargements

		4x5	5x7	6½x8½	8x10	10x12	11x14	14x17	16x20
Black Bromide Enlargements from Negatives	Unmounted		.40	.50	.60	.70	.80	.90	1.10
	Flexible Mounts		.50	.60	.70	.80	.90	1.00	1.25
	Double Mounted		.65	.75	.85	.95	1.15	1.25	1.50
Royal Brown Sepia Enlargements from Negatives	Flexible Mounts		.60	.80	1.25	1.50	2.00	2.50	3.00
	Royal Brown Mounts		.75	.90	1.40	1.65	2.25	2.75	3.25
	Stretchers		1.00	1.25	1.75	2.25	2.75	3.25	3.75
Enlarged Negatives from Glass Positives		.80	.90	1.00	1.50	2.50	4.00	4.50	5.00
Contact Positives on Glass		.25	.35	.50					

Enlargements made from prints, $0.25 extra for making negatives.
Express charges both ways to be paid by purchaser.
Negatives should be securely packed in excelsior in a large box, and express prepaid.
We accept no responsibility for safety of negatives, but will pack properly for return.
On large portraits a special price will be charged for necessary hand work, varying from $2.00 to $5.00 more than prices given.

Photo Era Publishing Company, 383 Boylston Street
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Eastman Kodak Company
ROCHESTER, N. Y., *The Kodak City.*

PREVENTING DECEPTION.

A recent number of the *Camera* contains a most instructive article on Development with particular reference to the development of over exposures. The substance being as follows :

As a basis for demonstration four plates were exposed upon the same subject, eight times the correct exposure being given.

Plate No. 1 was developed in the ordinary way, that is, when it *appeared* sufficiently dense development was stopped and the plate fixed—the result being a weak, thin negative.

Plate No. 2 was developed with bromide added to the developer as soon as over exposure was evidenced. The duration of development being determined by visual examination as for Plate No. 1.

Result. The negative precisely like No. 1.

The addition of Bromide having absolutely no effect except to make development slower.

Plate No. 3 was developed with Bromide added before development. This negative proved to have a fair degree of contrast and demonstrating that Bromide is an advantage if *added to the developer before development has commenced.*

Plate No. 4 was developed according to the factorial or time development method. At the expiration of the required time the plate was removed and fixed, the negative affording good contrast and brilliancy, and in every way *as good as if the plate had received only normal exposure.*

The writer very pertinently remarks that Plate No. 3 must be ruled out, as we can seldom, if ever, add Bromide before development owing to our not knowing whether the plate had been over exposed or not.

As to density, negatives Nos. 1 and 2 print in five seconds. Negative No. 3 in ten seconds, negative No. 4 in thirty seconds, proving conclusively that the time of exposure only affects density and not contrast.

In concluding, the writer states that "Time development is *correct* to give proper representation of the lights and shadows *whatever the exposure.*"

"*Time development simply prevents appearances from deceiving us*, and enables us to afford the film the proper *amount of development, no matter how dense or thin the negative may look in the dark-room.*"

Time or factorial development is the fundamental principle of the Kodak Tank Developer.

Error either way from the correct or normal exposure is taken care of by the extreme latitude of Kodak Film and the proper time for development and exact formula for developer have been figured out by the manufacturers, absolutely ensuring the user the highest possible percentage of good results, to say nothing of the immense advantage of performing the entire operation of picture making in good wholesome daylight.

WHAT'S THE USE.

Some of us started Kodaking a good many years ago using the old style Kodak making the little round picture, perhaps at first "they did the rest", but after a while we tried it—not with great success, as albumen paper was quite a proposition for an amateur.

Then came Solio and daylight loading. We thought the Millenium had arrived — making pictures was too easy. Then just as we became accustomed to such luxuries along came Velox—another tradition shattered, now we could make pictures by any light, and so rapidly that we overtimed every print, not being able to realize at first that prints could now be made in as many seconds by

Eastman Kodak Company

ROCHESTER, N. Y., ***The Kodak City.***

gaslight as it took minutes of daylight the old way.

So it went from bad to worse; every time you picked up a magazine Eastman had something new; if you couldn't make prints in the daytime, make them at night; if you didn't like black and white prints Eastman had a paper that would yield browns, olive greens, sepias, etc.; if you grew lazy or thought you couldn't carry the camera and your gun also, out came the Folding Pocket Kodak — you hadn't an excuse, simply had to go on Kodaking.

Now you don't even need a dark room for developing—don't even need to turn a handle—just pop the films in a tank, sit down and be comfortable.

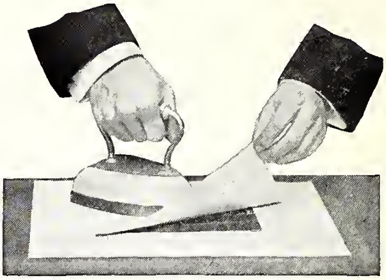
What's the use—every time you would invent an excuse for retirement out comes something new and good from the Kodak City—you just simply have to keep at it—and deep down in your heart you wouldn't quit Kodaking if someone paid you for it.

SEPIA TONES.

Velox paper long ago established itself firmly in the good graces of the photographer, the variety of surfaces and grades affording him a medium of expression unequalled by any other paper, to say nothing of its convenience and time saving qualities. For some subjects the regular black and white tones did not suffice and the amateur resorted to more or less non-permanent and troublesome methods to produce prints warm in tone.

The use of Velox Re-Developer affords the ideal method of producing Sepia toned prints, absolutely permanent, uniform in tone and without unsatisfactory delay as by this method a Velox print can be turned Sepia in two minutes and at the nominal cost of fifty cents for three hundred four by five prints.

Just Press it with a hot iron.



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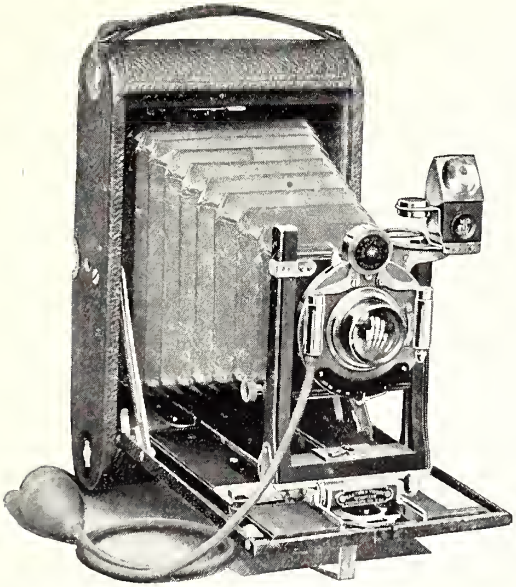

A New KODAK for 4¼ x 6½ Pictures.

The No. 4A Folding Kodak follows the lines of the immensely popular 3A Folding Pocket Kodak and is intended to meet the demand of photographers who fully appreciate the supremacy of the Kodak for serious work. The pictorialist has often experienced difficulty in making his picture come properly within the arbitrary confines of some of the regular sizes of films and plates, finding it necessary to photograph the image on a scale smaller than desired and then trimming down the print in order to perfect his composition.

In the 4A Folding Kodak the size of the picture has been increased to 4¼ x 6½ inches, an ideal size from the pictorial stand-point, and one that enables the picture maker to record the image on the largest possible scale without detriment to the composition. The optical equipment is one of the strongest features of the 4A, the lenses and shutter being such as are ordinarily furnished with the highest grade 5 x 7 camera, ensuring speed, covering power and correct perspective.

The lens of the regular equipment is a double combination Rapid Rectilinear, 8½ inch focus, fitted to the No. 2 Bausch and Lomb Automatic Shutter. The rising and sliding front, automatic focusing lock and the extension focusing scale, are immensely practical and convenient and do much to increase the simplicity in manipulation and accuracy of results.

With the Kodak Portrait Attachment and extension focusing scale the camera can be operated up to 3½ feet, thus permitting portraits of a size limited only by the size of the film. By means of an adapter, instantly attached glass plates may be used when desired.

A brilliant reversible finder, spirit level and tripod sockets for both horizontal and vertical pictures round out the remarkably complete equipment.

Notwithstanding the large size pictures made with this instrument, the word Pocket could with but a slight stretch of the imagination have been included in its name as when closed it measured but 2⅝ inches in thickness by 11 inches in length.

The Price.

No. 4A Folding Kodak, pictures 4¼ x 6½ - - -	$ 35 00
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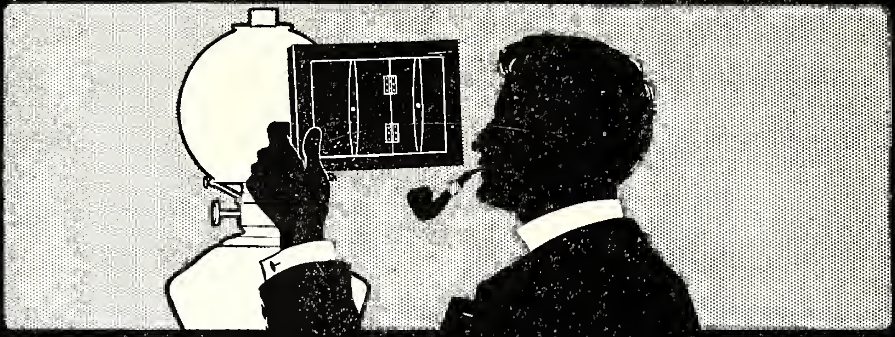
N. C. Film Cartridge, 6 exposures, - - - - -	65



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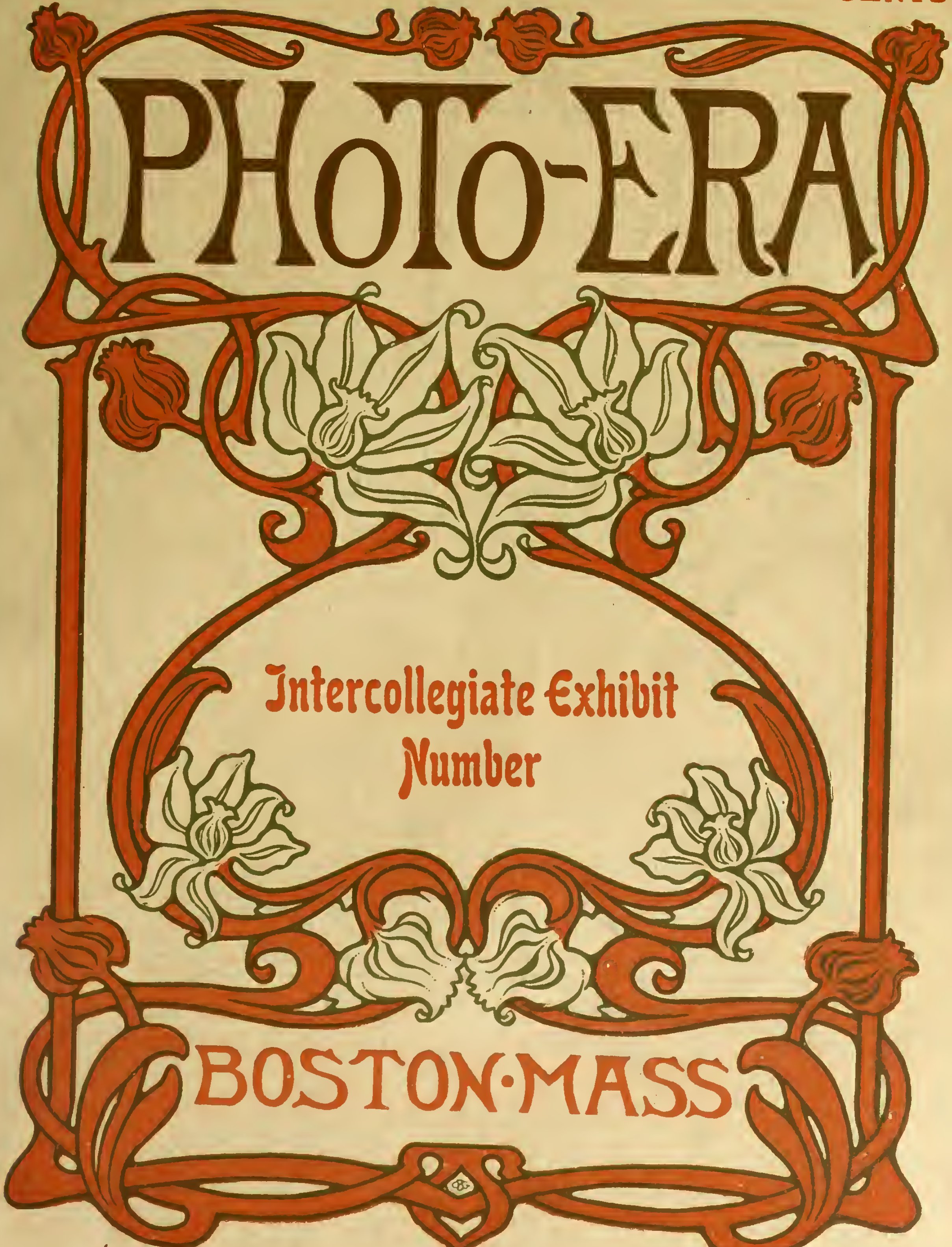

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